ANNUAL REVIEW AND CONVENTION NUMBER

PAPER TRADE JOURNAL

Vol. XCVIII FEBRUARY 22, 1934 No. 8

1864 ~ 1934

"Excelsior" FELTS

Made By
KNOX WOOLEN CO.
CAMDEN, MAINE

EXCELSIOR KNOX FELTS & JACKETS

PAPER
PULP

BULKLEY, DUNTON & CO.
75-77 DUANE ST. NEW YORK and Direct

Core Department

HERBERT LIPPITT, Manager

International Paper Company

220 East 42nd Street, New York, N. Y.

PAPER TRADE JOURNAL (with which is consolidated PAPER), February 22, 1934, Vol. 98, No. 8. Published weekly by the Lockwood Trade Journal Co., Inc., 15 West 47th Street, New York, N. Y. Entered as second-class matter February 9, 1934, at the Post Office at New York, N. Y., under the Act of Congress of March 3, 1879. Printed in U. S. A. Domestic subscription, U. S. and possessions, $4.00 per year. Canadian, including tax, $7.50. Foreign countries in Postal Union, $6.00. 10 cents per copy. This issue $1.00.

Crow's nest

©ACCo.

THE fog is clearing. Many a ship riding the storm of the past few years has been blown off her course.

Go aloft to the crow's nest now, and scan the horizon—see what lies ahead—get a clear view of things as they are now.

Many a paper and board mill today realizes that its house must be put in order to meet the conditions of today and tomorrow.

New equipment MUST take the place of old. Economy and efficiency MUST be realized as never before.

Call in Beloit engineers to help you make a check-up. The time is now ripe for such a course.

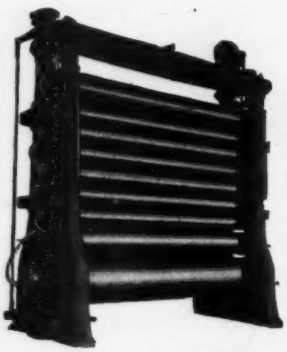
BELOIT IRON WORKS PAPER MACH'Y BELOIT WIS

The BELOIT Way is the MODERN Way

BELOIT

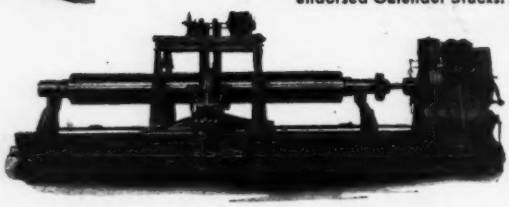
Beloit Iron Works, Beloit, Wis., U.S.A. Founded 1858

These LOBDELL Products are helping many mills to meet the present "Quality Competition"



Lobdell Calender Stacks

are accurate, durable, easily operated machines. Rolls are of "Puraloy" (mentioned below) and stacks are equipped with "floor controlled" Lifting Device, which may be operated by Motor, Ratchet or Hydraulic Cylinder. Modern, trouble-free lubrication is another feature of these widely used and endorsed Calender Stacks.



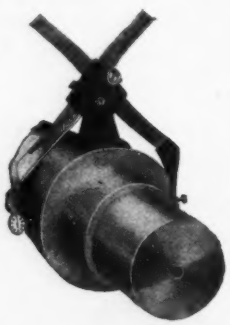
Lobdell Roll Grinding Machine,
Designed primarily for grinding paper mill Calender Rolls, is the most rapid and accurate machine obtainable for the purpose.

Simplicity of design—Rigidity of wheel mounting—the "exclusive" Automatic Crowning Device—the special provision for leveling the bed (to compensate for wear and foundation changes)—and Automatic Lubrication . . . make this superior efficiency possible.

Lobdell "PURALOY" Chilled Calender Rolls
assure maximum hardness and a perfect surface. They minimize pitting and wear, and are therefore ideal for the very severe conditions of water finish papers . . . an "exclusive." Lobdell Product.

Lobdell Improved Micrometer Roll Caliper

an indispensable instrument for all mills, either to keep a check on re-grinding or on the condition of Calender and Press Rolls. Light in weight, easily adjustable and extremely accurate.



LOBDELL
CAR WHEEL COMPANY
98 Years in Business
WILMINGTON·DELAWARE

1934

KALAMAZOO VEGETABLE PARCHMENT COMPANY

PARCHMENT, MICHIGAN
(KALAMAZOO COUNTY)

Those "Worn-out" Press Rolls!

Even with new jackets, bronze or iron press rolls will quickly develop etched and pitted surfaces which pull the fibres and open the texture of the paper.

CRODON plate on metal press rolls or carrying rolls supplies *and maintains* a smooth, hard, slippery surface, of noteworthy assistance in the prevention of sticking, uneven drying, inaccurate crowns and frequent roll adjustment.

This imparts to the paper a smooth, *consistently uniform* finish .... the delays and expense of grinding and eventual replacement of rolls are eliminated.

New:

Our plants have developed new and improved methods of recovering worn, porous or corroded rolls. Blemishes and imperfections are abolished .... the desired *perfect* surface, well bonded to the base metal, is obtained .... *enduring* new-roll performance at low cost is assured.

CRODON
The Chrome Plate
TRADE MARK REG. U. S. PAT. OFF.

Fix those rolls *now*, and fix them *RIGHT*

Our service is available immediately. Rolls are out of service for only a short time before they are again ready for use, restored to new-roll condition and insured by CRODON for long and satisfactory service.

The trade-mark CRODON assures the best in chromium plate

Your own investigation of CRODON should be decidedly worth while, judging from the experience of many representative companies whose substantial cost-reductions and trouble-free operations are consistently attained with the aid of CRODON plate.

NRA

Chromium Corporation of America

Executive Offices—120 Broadway, New York

P. O. Box 1546, Waterbury, Conn. | 3125 Perkins Ave., Cleveland, Ohio | 4645 West Chicago Ave., Chicago, Ill. | 187 East Becher St., Milwaukee, Wis.

EDGAR BROTHERS CO
SATIN "HT" CLAY
METUCHEN NEW JERSEY

The very latest development in the art, by mechanical and chemical treatment and fully covered by patents

APPROVED
By American Coating and Paper Mills

EDGAR-BROTHERS-CO.=METUCHEN, N.J.=
"HT" COATING CLAY

Approved Coating Clay and Highest Grade Pilling Clay

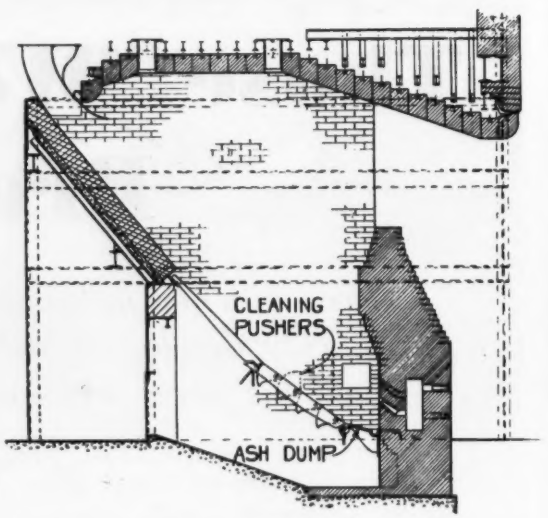
The Clay of Uniformity

AMERICAN MADE
for AMERICAN TRADE

Edgar Clays are the Result of more than fifty years' experience in washing clay — used by Leading Paper Mills.

Also Manufacturers of KLONDYKE BRAND FILLER CLAYS

EDGAR BROTHERS COMPANY
50 CHURCH STREET NEW YORK CITY



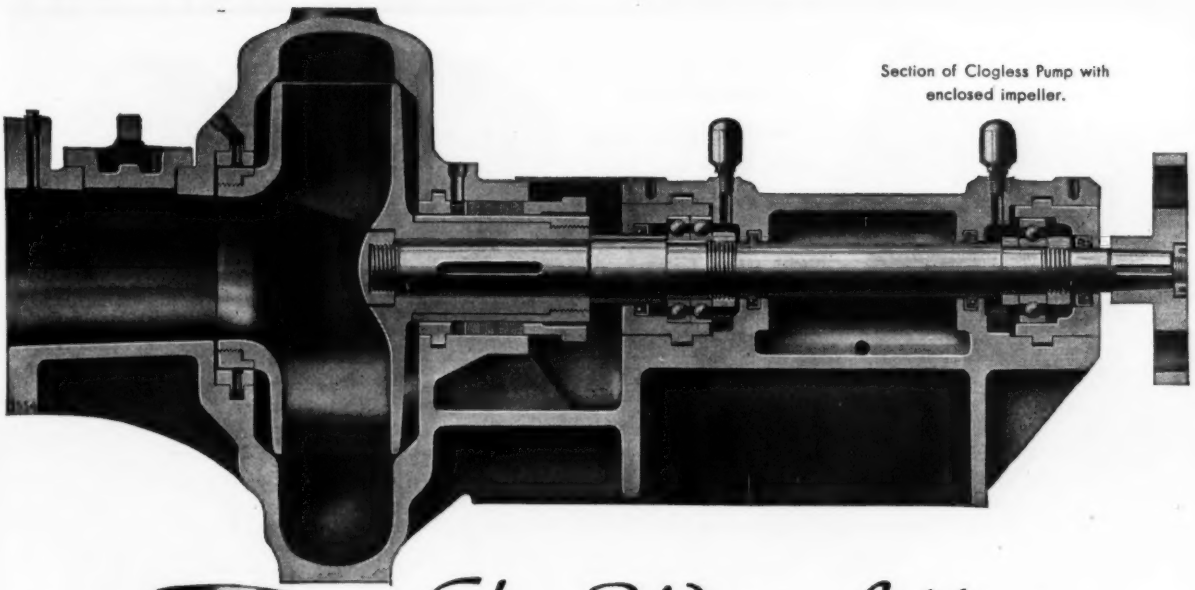
MORE STEAM FROM YOUR BARK

TWO of the last pulp mills built installed Hofft bark-burning equipment. One mill is getting more than 1,100,000 pounds of steam per day, from its bark. Even on 60% moisture bark one gets more than 2 pounds of steam per pound of bark as fired, when operating at 150% rating.

Every additional pound of steam obtained from your bark means that much less fuel to purchase.

We also build equipment to automatically feed the bark to the furnace. Prevents arching in the bin.

THE M. A. HOFFT COMPANY
814 W. Washington Avenue
Indianapolis, Indiana



Section of Clogless Pump with enclosed impeller.

Clogless Pump with supporting foot for vertical mounting.

Clear Water Efficiency from a CLOGLESS PUMP

THE De Laval Clogless Pump, used for screened and unscreened sewage, paper pulp and other liquids carrying large quantities of suspended solids, runs at slow speed and has carefully proportioned impeller passages, comparing favorably in efficiency with standard high speed clear water pumps.

This high efficiency can be maintained indefinitely, as means for sealing with clear water prevent abrasive matter from entering between the wearing rings or into the stuffing box; furthermore, these wearing rings can readily be renewed, both for casing and impeller.

The interiors of De Laval Clogless Pumps are easily accessible. The De Laval Clogless Pump is designed for either horizontal or vertical mounting.

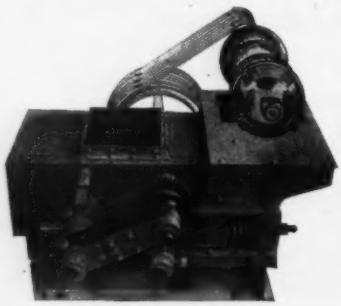
Manufacturers of

Steam Turbines . Centrifugal Pumps . Propeller Pumps
Rotary Displacement Pumps
Centrifugal Blowers and Compressors
Helical Speed Reducing Gears
Worm Gears. Hydraulic Turbines
Flexible Couplings and
Special Centrifugal Machinery

Sole Licensee of the Bauer-Wach Exhaust Turbine System

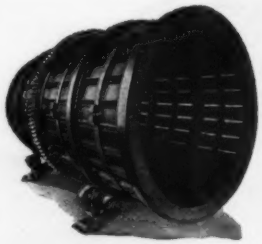
3156

DE LAVAL STEAM TURBINE CO.. TRENTON. N.J.



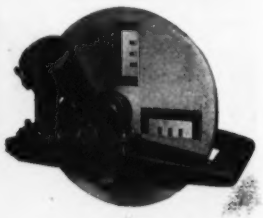
CHIP CRUSHER

Makes uniform chips from rejects with practically no slivers. Rugged and efficient. Equipped with safety device.



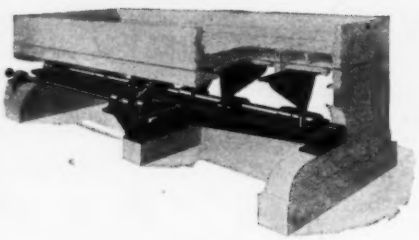
BARKING DRUM

High capacity, low maintenance.



CHIPPER

Makes uniform chips with least sawdust. All sizes.

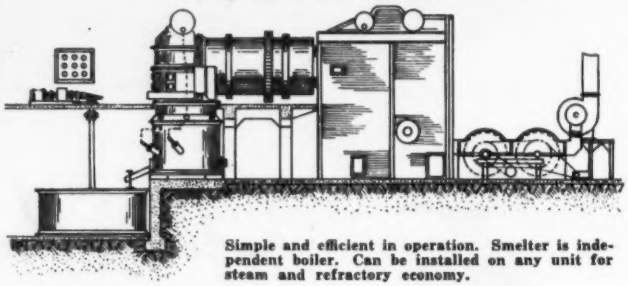


THE DUNBAR FLAT SCREEN DRIVE

For old or new screens. No cams; no toe blocks; no noise; no vibration. Lowest power—highest capacity. New design flat screen vat.

MURRAY WAERN RECOVERY SYSTEMS

Sulphate Soda—Steam Producing



Simple and efficient in operation. Smelter is independent boiler. Can be installed on any unit for steam and refractory economy.

D. J. MURRAY MFG. CO., WAUSAU, WIS.

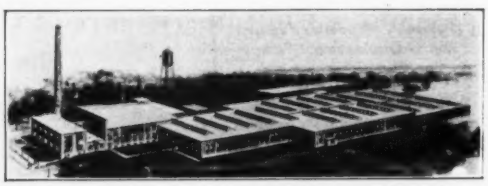
F.C.HUYCK & SONS

KENWOOD MILLS

ALBANY, N.Y.

KENWOOD WOOL PRODUCTS REG. U.S. PAT. OFF

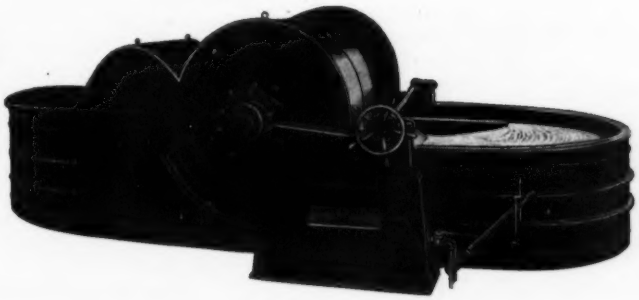
Manufacturers of Kenwood Felts and Jackets for all Pulp and Paper Making Purposes since 1870



KENWOOD MILLS LTD. ARNPRIOR ONTARIO, CAN.

The New JONES MULTIBEATER

Attains NEW PEAKS OF PERFORMANCE . . . . .



Effecting Sweeping Savings!

Revolutionary business changes have created new situations challenging your ability to reduce costs, eliminate inefficiency, and waste.

The vital spot in your mill, where you so often have endeavored to effect important economies, has been your beater room. Now you can definitely reduce your beater room operating costs through the new Jones *Multibeater* which has absolutely proved its ability to do twice the work of an ordinary beater at less cost. It is the result of several years' intensive study, and only has been announced after thorough tests, and actual successful mill use with definite attainment of new peaks of performance.

In actual mill use, one 1,600 lb. Jones *Multibeater* replacing one 800 lb. regular type Hollander showed a possible increase in daily production capacity of 220%. Horsepower hours per ton of beaten stock were reduced 62%, saving this mill over $13.00 per ton in power alone. Required H.P. has been cut approximately 40%, while beating time has been reduced 37½% for double the former loading capacity, maintaining the same required stock characteristics as before. The beater control is so designed that accurate adjustments to thousandths of an inch may positively be maintained, giving flexibility so that same tackle can be used for writings or blottings. Circulation on 5 to 7% consistency rag stock ranged from 30′ to 60′ per minute, giving excellent mixing qualities.

No stirring is required as there is no stock lodgement. The beater also can be dumped in 6 minutes with no raking. Automatic beating control can be used, saving labor and giving much desired uniformity of beats as well as saving power and beating time.

You owe it to yourself to learn more about this new type beating engine. Our sales engineer in your territory has all the detailed facts as applied to your particular mill. He gladly will explain them to you upon request. We invite your inquiry.

Jones

E. D. JONES & SONS COMPANY-PITTSFIELD, MASS.

Builders of High-Grade Machinery for Paper Mills

GEORGE F. HARDY

Consulting Engineer

305-309 Broadway, New York City, N. Y.

Member—Am. Soc. C.E.—Am. Soc. M.E.—Eng. Inst. Can.

Consultation
Reports
Valuations
Estimates

Paper and Pulp Mills
Hydro-Electric and
Steam Power Plants
Plans and Specifications

The Home of MISCO "C" the corrosion proof alloy

In this vast plant is housed a complete organization and a most modern, unsurpassed equipment to produce and fabricate special purpose alloy castings such as MISCO "C" for the sulphite pulp industry. For more than a quarter of a century devoted exclusively to the manufacture and fabrication of metals and alloys, the makers of MISCO "C" have adhered strictly to the fundamental idea of excellence which is reflected in all of their products. To the users of MISCO "C" is offered a wealth of valuable experience and accurate and intimate knowledge of conditions and requirements to which MISCO "C" is subjected. Also available are complete pattern facilities; large up-to-date foundry; extensive machine shops efficiently tooled; chemical and physical testing laboratories; a research department constantly engaged in improving the MISCO alloys of today and contributing to the betterment of alloys for the specific uses of tomorrow; an engineering deparment to render every assistance in finding the better way and through correct design obtain the most economical and practical casting. Always jealous of its reputation MISCO insists that every phase of production be carefully supervised and controlled to insure satisfactory performance, dependable service and long life.

Routine chemical checking positively controls uniformity of products and details of manufacture.

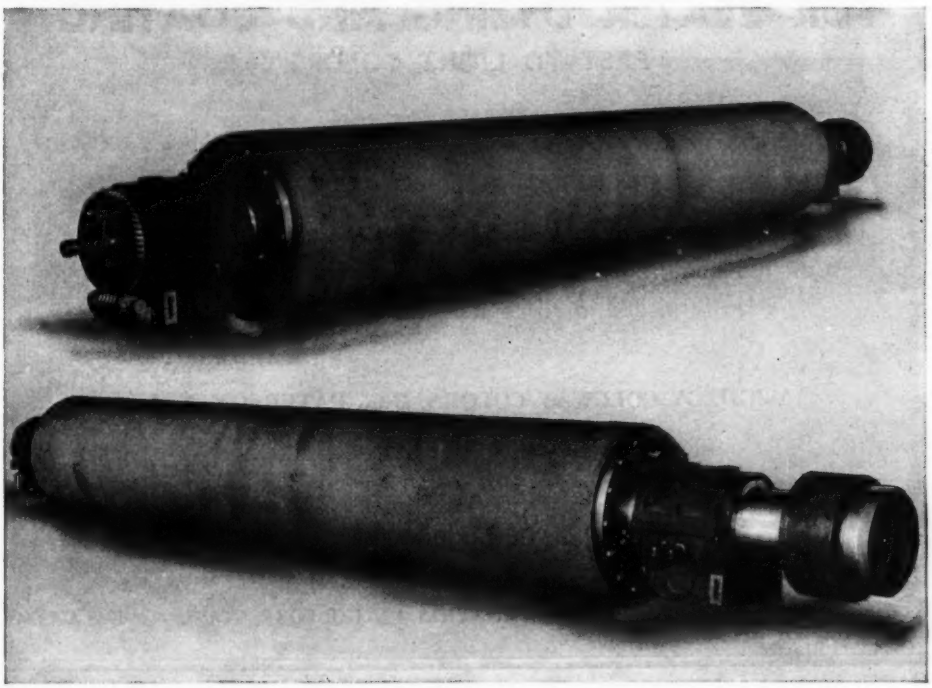
No MISCO "C" casting in sulphite mill service has ever been replaced.

Routine physical testing of MISCO alloys assures soundness of metal and dependability in service.

MICHIGAN STEEL CASTING COMPANY

1990 GUOIN STREET, DETROIT, MICHIGAN

THE VALUE OF EXPERIENCE



SUCTION PRESS RUBBER COVERED ROLLS

Rubber coverings are playing a leading role in up-to-date paper machinery. To get speed in production at no additional cost, and where possible at still lower cost, rubber coverings must be of a superior type . . . . The modern paper machine is now equipped with Manhattan Rubber Coverings on Suction Rolls and Extractor Rolls. . . . Manhattan Engineers, assisted by their years of experience producing rubber compounds of every type, have originated superior covering for these rolls. Our technical men have worked in cooperation with the paper machinery manufacturers to attain the highest degree of perfection. . . . Speed, reliability and long life for your rolls, and improved quality in the product are benefits derived from Manhattan Rubber Coverings—which have served the Paper Industry for over 40 years.

Write for full information.

Condor LINE

V-Belt
Compensated Belt
Conveyor Belt
Air Hose
Acid Hose
Water Hose
Fire Hose
Steam Hose
Suction Hose
Mill Sundries
Oilless Bearings
Industrial Brake Blocks and Lining

Manhattan Rolls Also Made in Fox River Valley — Factory at Neenah, Wisconsin

THE MANHATTAN RUBBER MFG. DIVISION
OF RAYBESTOS-MANHATTAN, INC.

EXECUTIVE OFFICES AND FACTORIES, PASSAIC, NEW JERSEY

COLLWAY SUPER BLUES

FOR BEATER DYEING AND COATING

FAST TO LIGHT COLORS

The immediate and complete dispersion of these colors assures uniformity and brilliancy.

The rapid action in the beater and the chest reduces the amount of color used to maintain uniform shades. Also furnished in all colors. Write for samples.

MFGD. BY COLLWAY COLORS, INC., PATERSON, N. J.

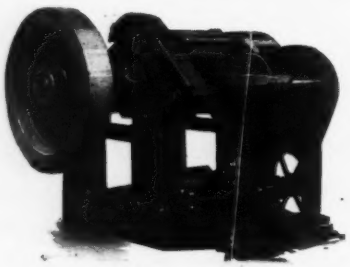
Distributed By

NEW YORK COLOR & CHEMICAL CO., Inc.

"COLOR SPECIALISTS FOR PAPER"

BELLEVILLE, N. J.

BRANCHES: BOSTON CHICAGO PHILADELPHIA HOLYOKE, MASS. KALAMAZOO, MICH.



RAG CUTTERS

Under the TAYLOR, STILES & COMPANY GIANT REG. U.S. PAT. OFF. RIEGELSVILLE, N.J. U.S.A. Trade Mark

FOR EVERY KIND OF PAPER STOCK

ROLL BARS—BED PLATES—RAG CUTTER KNIVES

TAYLOR, STILES & COMPANY

RIEGELSVILLE, N. J. U. S. A.

Tapered Roller TIMKEN BEARING EQUIPPED

MORE PAPER with LESS POWER

All along the production line in paper mills, Timken Tapered Roller Bearings are taking the drag and waste of friction out of paper making machinery—increasing output; cutting costs; improving quality.

For years Timken engineers have worked hand-in-hand with equipment builders and paper manufacturers to give them the anti-friction advantages enjoyed by users of other types of machinery throughout all industry.

The far-reaching effects of Timken experience and cooperation are seen in today's higher operating speeds and radically reduced operating and maintenance costs in Jordan engines, beaters, shredders, pulp machines, paper making machines, Fourdriniers, dryers and super calenders.

The Timken Bearing meets every requirement in all types of paper mill machinery because of its ability to carry all loads—radial, thrust and both together in any combination; to minimize friction and wear; and to hold rolls and other vital moving parts in proper and permanent alignment.

If you are handicapped by machines that cost too much for power and lubricant—machines that are slow and undependable, it will pay you to modernize them with Timken Bearings. This can be done quickly at moderate cost. Consult the equipment builder or Timken engineers. Specify Timken Bearing Equipped when buying new machinery of any type.

THE TIMKEN ROLLER BEARING CO., CANTON, OHIO

TIMKEN *Tapered Roller* **BEARINGS**

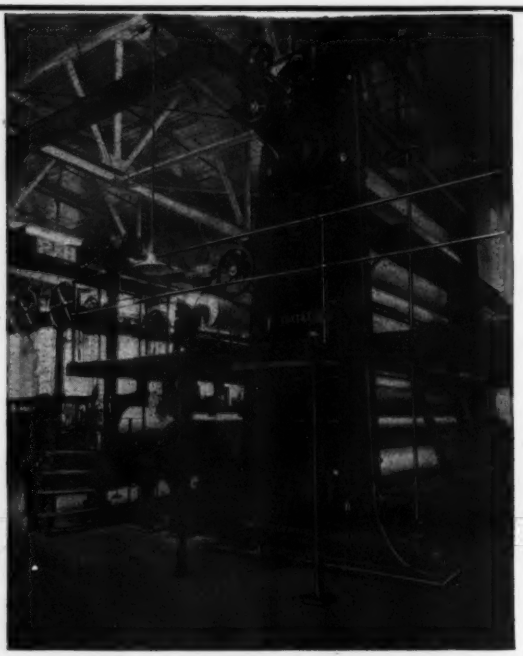
Textile's

SUPER CALENDERS

FRICTION CALENDERS

EMBOSSING CALENDERS

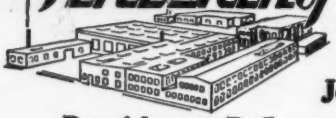
COTTON AND PAPER ROLLS



70 YEARS' EXPERIENCE IN ROLL MANUFACTURING

ROLLS REFILLED AND REFACED REGARDLESS OF SIZE AND MANUFACTURE

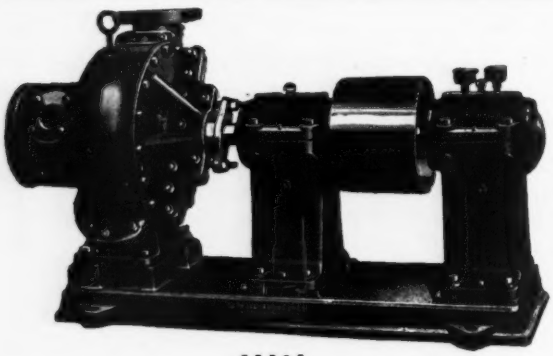
The Textile Finishing Machinery Co.



New York Office
50 Church St.

Southern Office
Johnston Bldg., Charlotte, N. C.

Providence, R. I.



FREDERICK PUMPS

THE FREDERICK IRON & STEEL CO. FREDERICK, MD.

Also makers of the well-known line of Frederick Underfeed Stokers in capacities up to 500 lbs. of coal per hour. Write for details.

STOCK PUMP ECONOMIES:

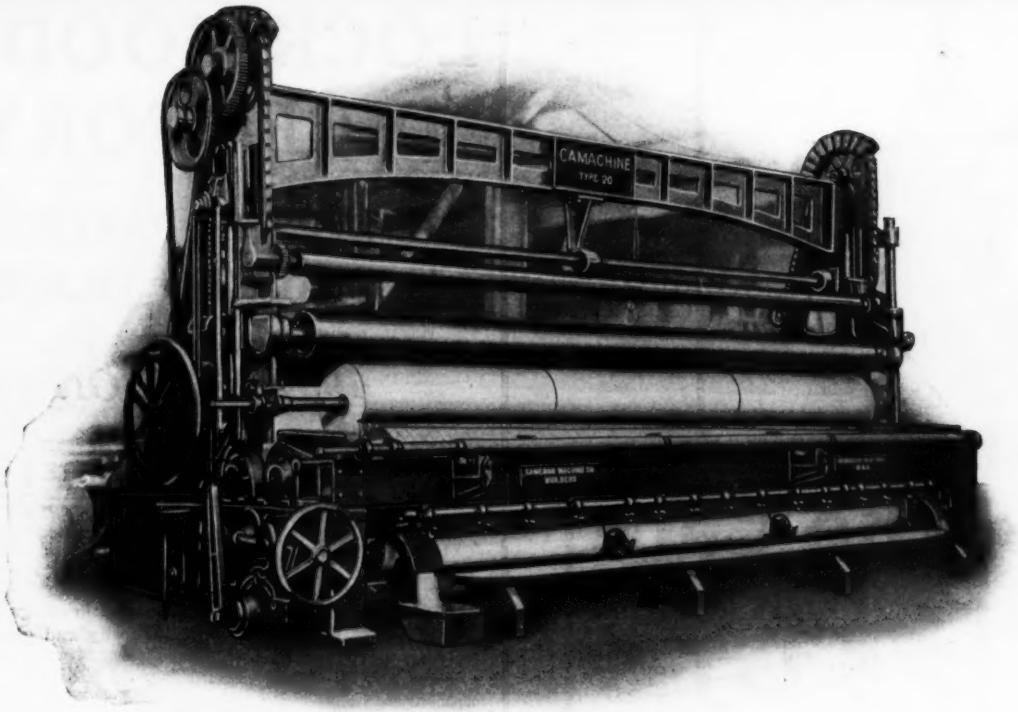
The nearest approach to profits anywhere these days seems to be lowered cost for what production there is . . . how true this is in paper and pulp mills!

We can contribute to lowered production costs in one important regard at least: Lowered *Power* costs based on Stock Pump Economies—*Frederick Stock Pumps on any drive take less power!*

The savings, fractional at first, build up enormously at last. Moreover, the fact that Frederick Pumps give continuous service and freedom from breakdowns cannot be ignored. It helps explain why the list of Frederick users already reads like a blue book of the industry. . . . Because Stock Pump Economies take the most immediate and practical approach to profits.

Send for latest Bulletin

Frederick High-Duty Flexible Couplings are suitable for all services where a good pin and bush type of coupling is desired. Made for all shaft bores from ½" to 7". Literature on request.



WORLD'S LARGEST PAPER MACHINE

to be equipped with Cameron Winder

Messrs. Edward Lloyd, Ltd., have placed an order for the manufacture of a new paper machine, which will be the world's largest, with a wire width of 320″. It will run at 1400 f.p.m. This machine will be equipped with a New Type 20 High Speed Cameron Winder, running at over 3000 f.p.m. and capable of keeping well ahead of the paper machine at any paper making speed. This winder is now under construction at the Canadian plant of the Cameron Machine Company.

Patented Method Winds Rolls Wire Side Out If Required

CAMERON MACHINE COMPANY, 61 POPLAR ST., BROOKLYN, N. Y., U. S. A.

CAMACHINE

The Care of FELTS

Felt seams should be straight across the machine. There is seldom any excuse for having them otherwise. When a felt is not started properly a strain develops which shortens the life of the felt.

Failure to raise the rolls when the machine is down for any length of time is hard on the felt.

Under the most favorable conditions, felt life is none too long, because of the severe type of service felts perform . . . all the more reason for insisting that all felts be properly adjusted to the machine.

Endless felts up to 86 feet in length. Top and bottom felts. Dryer felts. Every required weave, width and size used in the manufacture of paper.

The Orr Felt & Blanket Co.
Piqua, Ohio

LOCKWOOD'S DIRECTORY

OF THE PAPER AND ALLIED TRADES

1934 EDITION

CORRECTED UP-TO-DATE

CONTENTS

Entire contents classified under separate headings for the United States and Canada, alphabetically and geographically arranged by states.

City Addresses of Mills and Mill Supply Houses
Classified List of Paper Mill Products
Classified List of Pulp Mill Products
Coated Paper Manufacturers
Envelope Manufacturers
Glazed and Coated Paper Manufacturers
Idle Mills
Mill Officials
Pad Manufacturers
Paper Merchants
Paper Stock and Rag Dealers
Paper Bag Manufacturers
Paper Box Manufacturers
Paper, Wood Pulp and Chemical Fiber Mills of the United States, Canada, Cuba, Mexico and South America
Paper Specialties Manufacturers
Papeterie Manufacturers
Prepared Roofing Manufacturers
Rags and Paper Stock Consumed by the Paper Mills
Statistical Table of Mills
Tablet Manufacturers
Tag Manufacturers
Toilet Paper Manufacturers
Trade Associations
Twine Manufacturers
Vegetable Parchment Manufacturers
Wall Paper Printers
Water Marks and Brands
Waxed Paper Manufacturers

1,000 PAGES
***of* USEFUL INFORMATION**

Traveler's Special Pocket Edition

bound in a flexible cover for use of traveling men, comprising the Paper and Pulp Mills, Coating Mills and the Mill Officials. Price $7.50, including delivery charges. ($7.00 cash with order.)

Published by
LOCKWOOD TRADE JOURNAL CO.
15 West 47th Street
New York, N. Y., U.S.A.

LINDSAY WIRES

Back in 1904 in a little shop on an obscure street in the city of Cleveland, the founder of this company completed his first Fourdrinier wire. That was the forerunner of many thousands of wires which have made the name of Lindsay Wires known in the United States and Canada, wherever paper is made.

The policies of the founder of this company are being carried on. Now as always, we are concentrating on doing one thing well; to make paper machine wires of more than ordinary merit.

This company was the pioneer in the manufacture of *Longcrimp wires,* which are giving outstanding service.

Our *Modified Longcrimp* represents the latest idea in that type of Fourdrinier wire. It minimizes wire marks and has the extra life of Longcrimp.

Our *Spiral Weave wires* prevent seams from scoring.

Last in line, but not least in the line-up, we have our *Duo-wear wires.* They have exceptional wearing qualities.

THE LINDSAY WIRE WEAVING COMPANY
14025 Aspinwall Ave., Cleveland, O.

3 MORE WESTINGHOUSE JORDAN MOTORS . . .

join this veteran line

*Now, there are eleven 300-hp. high-speed Westinghouse Synchronous Motors driving Jordans in this Southern Kraft mill.**

THREE years ago, a large Southern Kraft mill* purchased eight 300-horsepower high-speed Westinghouse synchronous motors to drive Jordans. Recently, we received an order from this mill for three more Jordan motors, with the same characteristics as the original units.

This repeat order is convincing proof that the original motors gave a highly satisfactory account of themselves. When additional refinery capacity was needed, this company knew the high standard of performance it could expect from Westinghouse motors.

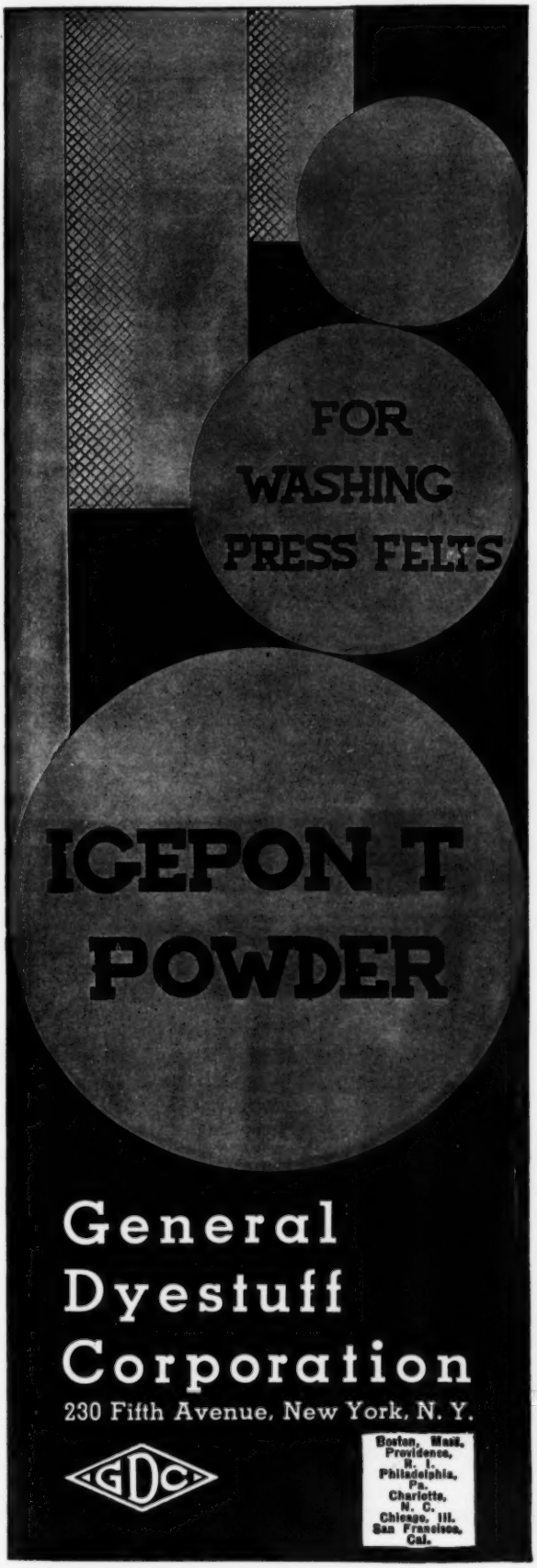
Here are some of the reasons why Westinghouse Jordan motors have been selected by so many paper mills: High efficiency throughout the load range, assuring low power cost . . . Minimum space requirements . . . Ample torque for all starting and running conditions . . . Unusually low maintenance because of sturdy design and quality materials . . . Ease and simplicity of control . . . Ability to improve plant power factor.

There are other important features of Westinghouse synchronous Jordan motors that contribute to lower refining costs. For complete information, write the Westinghouse office near you, or address Westinghouse Electric & Manufacturing Company Room 2-N, East Pittsburgh, Pa. T 79928

** Name on request.*

Westinghouse

Quality workmanship guarantees every Westinghouse product



PAPER TRADE JOURNAL
ESTABLISHED 1872
SIXTY-SECOND YEAR
THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD
Published Every Thursday by the
LOCKWOOD TRADE JOURNAL CO., Inc.
GEO. S. MACDONALD, President. J. BANNINGA, Sec.-Treas.
Executive and Editorial Offices: 15 West 47th Street, New York
Chicago Office: 123 West Madison St.

TABLE OF CONTENTS

Kraft Paper Industry Improves Under Code... 21
Capacity and Actual Production of Paper Machines in the United States... 22
Pulp Industry Makes Tangible Progress in 1933, Confidence Returning as Year Advanced... 23
Chemical Industry Weathers Storm Successfully, With Prices Rising Since Middle of Year 25
Ogden Brower, Jr. says Business Is Better... 25
Book Paper Industry Greatly Aided by NRA, Leading to Much Better Conditions Than in 1932 ... 26
How the Tax Applies on Jute Papers... 26
Canadian Factory Resumes Operations... 26
Rags and Paper Stock Rally in 1933, Reaching Peak of Recovery During Midsummer... 27
News Print Production for January... 27
Marcalus Mfg. Co. to Move to Elizabeth... 27
Progressive Development in Rehabilitation of News Print Industry Occurs During 1933.. 28
Hearing on Proposed Mill Purchase Agreement by Kraft Board and Paperboard Industry... 33
Paper Prospects in the South... 34
Buys Leeburg Grass Fibre Co... 34
To Make Paper Maché at Leetonia... 34
Paper Men Meet in New York... 37
Technical Section ... 71
Trade Names and Their Significance... 71
Type 0-Boards... 77
Type 1—Book Printing Papers ... 81
Type 2—Bristols ... 85
Type 3—Building Papers ... 87
Type 4—Cover Paper ... 89
Type 5—News ... 91
Type 6—Tissue Papers ... 91
Type 7—Wrapping Paper... 93
Type 8—Writing Paper ... 99
Type 9—Industrial Papers ... 103
Editorial ... 116
The Year in Paper... 116
Hear Supplemental Code on Wire Cloth... 117
Wrapping Paper Dumping... 117
Power Co. Sues American Writing... 117

THE PAPER TRADE JOURNAL is indexed in Industrial Arts Index

Want and For Sale Advertisements, 128, 129

Established 1886

NEW VISION

Year after year, you will find that the organizations that accomplish the big, substantial worth-while things in every industry are the old-established ones with the new vision—those that are venerable in age and yet are endowed with the rare wisdom of keeping not only abreast of the times, but ahead of them.

This organization is old enough to be "safe, sane and sound." It is young enough to be continually alert, progressive and forward-looking. It was founded in 1886, but it still faces the rising sun.

WOOD PULP

Of Every Description

HEAVY CHEMICALS

GOTTESMAN & COMPANY

—Incorporated—

22 EAST 40th STREET
at Madison Avenue
NEW YORK, N. Y.

European Offices:
Birger Jarlsgatan 10
Stockholm, Sweden

ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

PAPER

Vol. XCVIII, No. 8 Thursday, February 22, 1934

Kraft Paper Industry Improves Under Code

Conditions During Past Year Were More Favorable Than in 1932—Elimination of Unfair Trade Practices and Quotations Below Cost Assisted Recovery—Prices Advanced Gradually Until, In October, Present Market Level of $77.50 Per Ton Was Reached.

By John R. Diggs, Secretary-Treasurer of the Kraft Paper Association

The kraft paper industry entered the year 1933 determined to free itself, if possible, of the many destructive practices with which it has been beset for years. In the late summer of 1932 the market descended to the lowest point in the history of the present-day industry. This price of about forty dollars a ton, with sales at even lower levels, was below cost to every mill, and resulted not only in serious losses but caused the discontinuance of operation of several mills.

Industry Brought to Its Senses

During the last few months of 1932 the industry had to some extent been brought to its senses by the results of this demoralized condition, and by January, 1933, a somewhat unsteady market had been established at about fifty dollars. The industry was still suffering from the effects of the 1932 low market and struggled through the first quarter of '33 with the constant drag of the low-priced tonnage which was still in the hands of distributors and converters.

The inauguration of President Roosevelt and the announcement of Administration policies shortly thereafter immediately put new life into the industry, and cooperative efforts were again possible under more favorable conditions than had existed in the past.

Conditions Improve Gradually

There was a gradual improvement in conditions, accompanied by further strengthening of the market price, which by July climbed to sixty dollars a ton. However, the lack of demand for the products of the industry resulted in a continuance of non-profitable operations even at this figure.

With the inflationary talk of mid-summer an unprecedented demand occurred. All mills were flooded with orders, and the industry operated during this period to a greater percentage of capacity than it had for the past few years. The natural result of such a market was a continued advance in price until, in October, the present market level of $77.50 was reached.

Effects of Speculative Buying

In November and December the effects of the speculative buying began to be felt by the industry, and production gradually fell until the last three weeks of December, when the industry operated to approximately fifty per cent of capacity.

Shipments for the year exceeded those of 1932 as a result of the unusual buying during the summer months.

Effects of N.R.A. on Industry

A review of the year 1933 is practically a statement of the effects of the National Recovery Act on this industry. It is true that before the enactment of this law, the kraft paper industry was beginning to put its house in order.

The serious losses incurred in 1932 and the almost complete destruction of some of the units in the industry had brought very forcibly to the minds of the leaders in the industry the necessity for real cooperative effort.

However, it is not likely that the industry would have continued this cooperative work without the assistance of the Recovery Act. On several occasions in past years earnest efforts have been made, usually following a period of low prices and destructive practices, but invariably these efforts have been defeated.

In the year 1933, since March, this industry has increased the wages of its employees, which in some instances were very low, has through voluntary action brought about a reasonable balance between supply and demand for its products, has established a standard specification as the basis for competition between the various units of the industry, and has attained a market which should enable all efficiently operated units to continue the payment of fair wages and operate without loss on the basis of the present demand for the products of the industry.

Taken as a whole, the year 1933 can be considered satisfactory. With perhaps few exceptions, operations of the last six months of the year put the mills upon a no-loss basis.

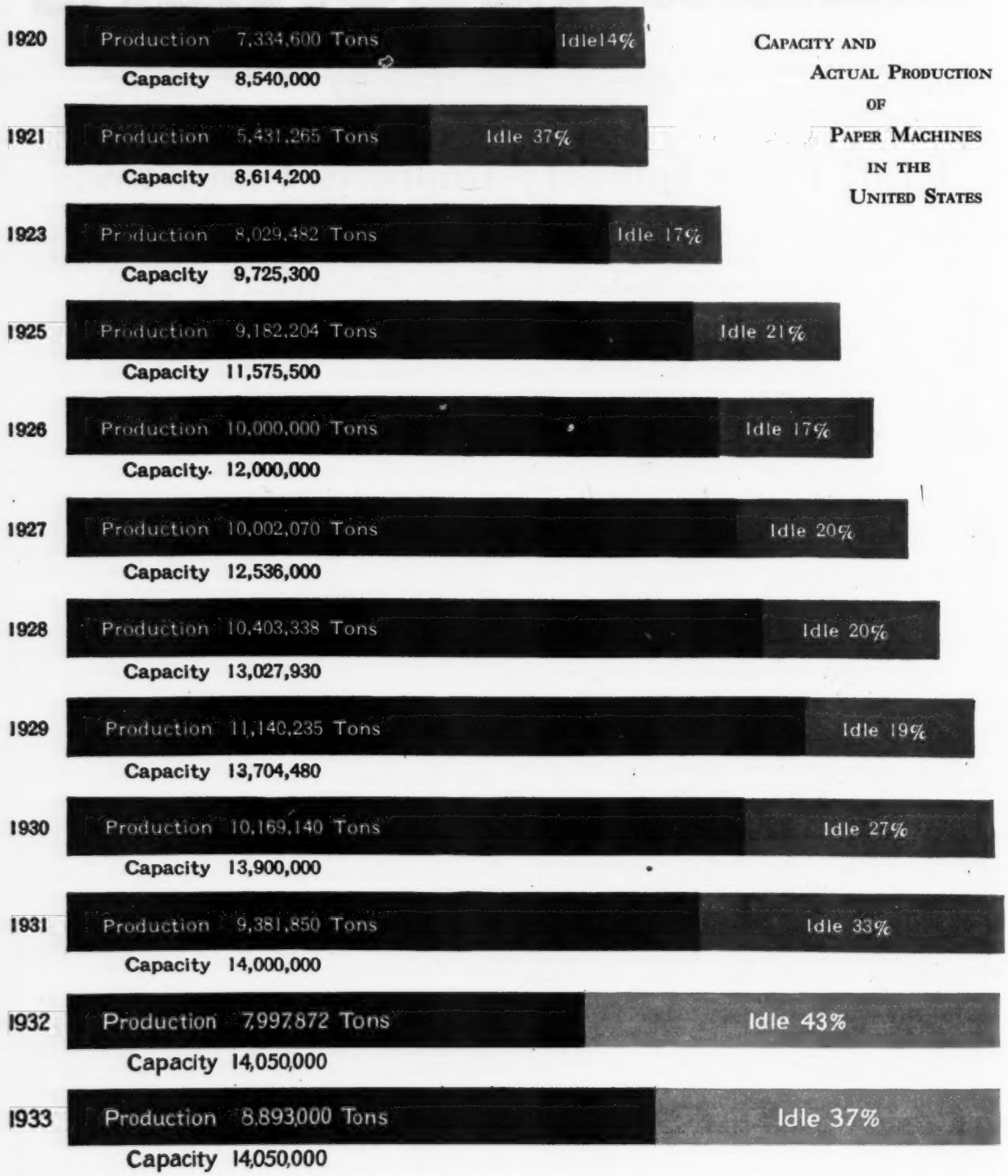
Merchandising Problem

The serious problem now confronting the industry is the merchandising of its product. The capacity to produce kraft paper has been almost double the demand for some time. Such a condition naturally creates the keenest competition and when this is unrestricted, destructive and unfair sales practices are inevitable.

The filing of prices under the Code will go a long way towards the elimination of many of these unfair practices. Hereafter buyers will not be able to induce a manufacturer to reduce his price, because that price has been filed with

the Executive Authority and no sales can be made at a lower figure prior to the filing of a lower price. This filing of prices also prevents the manufacturer from offering inducements in the way of price concessions in an effort to get more than his share of tonnage.

The outstanding development in 1933, however, is the very obvious change in the attitude of the individuals in the industry towards their own businesses and towards that of their competitors. The point of complete cooperation of course has not yet been reached, but it cannot be denied that practically every kraft paper manufacturer realizes at this time that the success of his business depends upon the success of the entire industry and that his company cannot progress at the expense of his competitor.



CAPACITY AND ACTUAL PRODUCTION OF PAPER MACHINES IN THE UNITED STATES

Courtesy of E. H. Naylor, Sec.-Treas., Writing and Cover Paper Mfrs. Association.

Pulp Industry Makes Tangible Progress In 1933, Confidence Returning as Year Advanced

By O. F. Swanson, Sales Mgr., J. Andersen & Co., and the Pulp and Paper Trading Co.

The wood pulp industry did not enter 1933 with any serene notion that its kinks and ailments of several years standing had been completely cured, but it was quite generally conceded that remedial progress was well under way and there were symptoms, faint to be sure, yet unmistakable, to support this view. A feeling of genuine optimism prevailed from the very beginning of the year, and the few achievements and numerous disappointments of the three preceding years were not considered important enough to either aid or thwart progress materially. No one knew, of course, whether the predicted prosperity was just around the corner or the next one or the next one after that, but a disposition to expect improvements in every way persisted until it routed the former feeling of uncertainty and there was no longer any abject yielding to the counsels of gloom.

Hope and Confidence in Future Gains

Hope and confidence in the future gained steadily as the year advanced. This made the situation look brighter and created a better spirit and a desire for real honest-to-goodness team work, which eventually developed into one of the most popular factors of the industry. Regardless of the ranks in business, team work became the pass word and, in order to derive the fullest benefit possible from this program, meetings were held here and there and everywhere at frequent intervals throughout the year.

If there is anything regarding 1933 that can be considered as a real outstanding feature of the year, its business and code meetings must be honored with this distinction. The wood pulp industry did not confine its meetings to any particular locality, but met wherever a convenient place was selected. Whether pulp was made in such a place or, as a matter of fact, in the entire country, did not make the slightest difference.

Conventions Helped to Stabilize Industry

The convention in Berlin, Germany, probably attracted most attention and, in accordance with rumors, Copenhagen furnished the best relaxation to the weary sojourners. But a great deal of good for the industry as a whole was also reported to have been achieved at these conferences, attended by members from the various pulp producing countries on both sides of the Atlantic. Meetings of some kind or other were also held in Washington, New York, Montreal, Stockholm, Oslo, Helsingfors, Kalamazoo and other important centers. They all contributed their bit in restoring confidence, regulating production, sales, etc., and, consequently, also to improve business in general.

Confidence is not always backed up by events that follow, but fortunately, 1933 had staunch support in this respect. When in March, the economic condition of the United States became so acute that the Government deemed it advisable to suspend banking facilities for a short period, it naturally caused some temporary inconvenience and anxiety. However, the marked and tangible progress which followed the resumption of banking operations obliterated from our memory any anxious moments we might have experienced, and also created a feeling of profound respect and faith in our courageous, resourceful, and very able national leadership. Besides, it served to convince many "a doubting Thomas" that the bottom had finally been reached and, on that account and also, no doubt, for other good reasons, this drastic measure on the part of the Government can be considered a blessing in disguise.

Early Gains Were Promising

There was a gain, but no noteworthy increase, in the volume of business during the early part of the year, and prices remained at about the same level, but compared with what we had been used to for several years, the early signs were quite promising, and the year was already considered as destined to play an important part in the winding up of a period which had brought practically nothing but grief, more or less, to the entire pulp industry. We did not anticipate anything epochal in business, and there was no manifestations in that direction but, taking everything into consideration the first quarter of the year could have been less satisfactory.

Important Business Booked for Forward Account

Aside from booking fair tonnages, for prompt shipment, important business was also placed for forward deliveries throughout the year. In some instances this was coupled with contracts well into and even over the entire 1934. Such contracts, however, usually provided for some protection against possible depreciation of the American dollar. At the beginning of the second quarter, prices were still unsatisfactory, but since the joint meeting in Stockholm, when the question of minimum prices and restriction of output were discussed, and it was unanimously decided to fix minimum prices on various grades of European chemical pulp, a great stride towards betterment of conditions was made. This agreement tended to eliminate the old method of bidding, or should I say, underbidding, for whatever tonnage the trade required.

Situation in all Grades Improved

Owing to the unusually mild weather in leading ground wood producing countries, this commodity was very weak throughout the winter months. No great change in the market for any kind of pulp occurred until the middle of the second quarter, when real improvement in every respect took place; especially so in regard to demand and tonnage sought. The buyers had become convinced, and rightly so, that prices on all kinds of pulp were so far below actual costs that they were apt to advance materially on short notice. This view, being quite generally shared by the sellers also, helped to stimulate buying of both pulp, paper and board for several months ahead, or well into Autumn. In the meantime, prices advanced by about 30 per cent on all kinds of chemical pulp, figured in American currency, and this increase, with slight fluctuations, remained in effect until the end of the year.

Quality of Pulp Generally Maintained

No particular progress was noted in regard to improvement in quality of pulp in general; the majority of the mills evidently being satisfied to maintain their standards. Some, perhaps, slipped a trifle in this respect, and a few others probably improved their grades somewhat; but the buyers, being fully as exacting as ever and, if anything, even more

technical in their demands, the grades that did not meet with full approval did not make much headway.

According to the great importance attached to uniformity in quality, and certain other properties in chemical pulp for general usages, voiced by some expert paper-makers, one was almost tempted to believe, at times, that the old adage "That the paper is made in the beater-room," should have been changed to read, "Made in the pulp mill."

Problem of Technical Control

With all due respect to technical control, it is, I presume, like everything else, not immune to over-indulgence and, if a little more power were delegated to the man in the paper mill, who has acquired his knowledge of paper-making through years of actual experience, and intensified practical training in the mills, the chances are that a certain freeness, slowness, or what not in pulp would, after all, be found of less importance than it has recently been regarded.

Rejections of shipments, on account of alleged inferior quality of the pulp delivered, compared with previous shipments, or samples submitted representing the quality bought, were sometimes made without resorting to arbitration and, occasionally, shipments were not even unloaded, but rejected on the railroad sidings, at the mills, or at some distant point. Whether such rejections were justified, or not, in accordance with terms stipulated in the contracts; is beyond the point. The fact of the matter is that samples were often drawn from the shipments in question and, when tested in the laboratory of the buyer, did not meet with approval based upon specifications from previous tests, which sometimes the buyer felt should be given consideration, although this particular point may not have been included in the contract.

In all fairness, I am inclined to agree with the advocates for specifications that the old method of going through the usual procedure of drawing samples from parcels in dispute, and arriving at some kind of a conclusion by soaking, tearing and looking at them, appears to be, mildly speaking, too antiquated for use.

Purchasing According to Specifications

The proponents of purchasing pulp according to specifications did not show the same amount of enthusiasm they displayed in 1932. Some, however, were still of the opinion that minimum specifications in regard to quality should be acceptable to both sellers and buyers; and that they should be stipulated in contracts; especially so, in contracts covering shipments at intervals over a certain period.

Before something on this order can be satisfactorily worked out, I believe it will first be necessary to establish universal rules to govern the testing of the various grades of pulp, and great significance should never be stressed on the time required for the proper treatment of the fibers to obtain certain results in the laboratories, because, for one reason, mechanical equipments do not remain at the same degree of efficiency.

Pulp from Southern Pine

The advisability of making suitable pulp for newsprint from Southern pine was seriously considered and, according to actual test runs, made on regular paper machines, the possibilities are not altogether unfavorable. The cost of the wood is calculated not to exceed 40 per cent of the cost of spruce pulpwood. It has been reported that a 30-pound sheet of paper made from the Southern pulp would have a greater bursting strength than the regular 32-pound standard newsprint. On that account, it has been pointed out, that a substantial saving in freight and in mailing costs by weight would be effected.

In my opinion, this was the most interesting item of news on new developments in this field during the year. However, when the development of a new pulp is considered, or any new raw material for paper-making proposed, the preliminary investigation of the claims for its suitability must prove that it can completely satisfy certain essential conditions. Partial satisfaction has never proven to be sufficient.

Danube grass, or Delta grass, under which name it is also commonly known, is another fiber under investigation in reference to its potentialities as a pulp producing raw material. It is reported to grow in unlimited quantities in the Delta of the Danube, in Rumania. This plant sometimes attains a height of as much as twenty feet and is about one inch in diameter at the butt, tapering towards the top into a blunt point. Its exact value as a raw material for pulp-making has not yet been established, but it is considered to have a fair chance for developing into something useful, at least for some grades of paper.

Pulp Producing Countries

In spite of the fact that the United States is the largest pulp producing country in the world, the chief sources of supply of wood pulp for the 550 or thereabouts so-called converting paper mills, spread throughout the land, are Sweden, Canada, Finland, Norway and Germany. Without these sources of supply, these mills would, on the whole, find it exceedingly difficult, and probably impossible, to continue operation except, possibly, those using bleached sulphite exclusively. Other grades of chemical pulp are not manufactured on this Continent in sufficient tonnage to anywhere nearly cover the requirements.

There is also the question of quality in the mind of some users, which I, however, would discount 100 per cent providing suitable pulpwood, in sufficient quantities, and at low enough prices, would be available to allow continued operation of mills located in the United States. American pulp manufacturers have proven, conclusively, that they can compete with anyone, in this respect, when called upon to do so and, as far as bleached sulphite is concerned, there is no better pulp made anywhere than right here.

United States Leading Producer

It is estimated that the entire production of wood pulp last year was about 16,000,000 long tons dry weight, and among the producers, the United States leads the list, with about one quarter of the world's production, with Canada second, and Sweden third. However, Sweden is still reported to be leading in exports of pulp, with about 70 per cent of her output. Kraft or sulphate pulp from modern Swedish pulp mills is considered essential to American converting mills manufacturing kraft paper and board. Other countries, especially Canada and Finland, are also supplying these mills with important tonnages of this kind of pulp.

Labor Troubles Negligible

Aside from the strike, which lead to a stoppage for a short period of several Norwegian paper and pulp mills, the year did not suffer to any notable extent on account of labor troubles. Owing to the brisk demand in Europe and also in this market for so-called silk pulp, Norway enjoyed rather attractive business from the silk industry, for which Norwegian bleached sulphite is considered very suitable. Norway has made remarkable progress in this particular field in recent years. Finland has built up the enviable reputation of manufacturing a variety of qualities in all grades of pulp second to none, all of her grades being very suitable for this market and, no doubt, for other markets also. Her unbleached sulphites are, without question, unsurpassed. Germany has also kept an ear to the ground with the view of paying particular attention to the kind of

pulp her customers desire which, of course, is not only a commendable, but wise move, and means a great deal to the users.

Canadian Pulp Advances

The Canadian mills are far advanced in several grades of pulp, including groundwood but, especially so, in silk pulp and kraft pulp and, according to reports, their silk pulp enjoys a most excellent reputation in the markets of the world. Canada, on account of its location, is also in a position to make as satisfactory deliveries as the mills located in the United States.

A quiet tone developed in pulp circles the fourth quarter of the year, and some disappointment was noticed throughout the trade at this change which, however, in an appreciable measure, was perhaps mostly due to overstocking on account of large incoming shipments against orders placed earlier in the year for deliveries prior to the closing of the Baltic navigation for the winter months. On account of low water, and curtailed production, mechanical wood pulp enjoyed increased demand and somewhat higher prices. The scarcity of water in northern pulp producing countries was so serious for several months that it is apt to have far-reaching effects in the trade of this pulp for some time to come.

Outlook for Future Bright

The year, as a whole, can be reviewed with greater calm, and very much more encouragement, than its predecessor and let us hope that the same spirit of determination and excellent team work may continue throughout this year, so that we may finally catch that elusive prosperity with which we have been playing hide and seek, around the corners, about long enough.

Chemical Industry Weathers Storm Successfully, With Prices Rising Since Middle of Year

By Guy A. Gardner, Manager, Chemical Division, M. Gottesman & Co., Inc., New York.

Needless to say, the past year has been a difficult and critical one for everybody and the chemical industry has been no exception to the general rule. However, a review of the figures for the year shows that on the whole it weathered the storm in fairly good shape. It is estimated that chemical manufacturing, taking all branches of the industry into consideration, operated at close to 70 per cent of capacity during 1933. Compared with many other lines of manufacturing, chemicals made a very good showing indeed.

While the first three months of the year showed very little change from conditions prevailing in 1932, the chemical consuming industries materially increased their demand for supplies during the spring months and by summer a decided increase in production was shown by most of the industrial chemicals. That improvement was on the way was also indicated by the fact that the price trend, after almost four years of constant decline, started upward about the middle of the year. The increase in demand, while gradual, was well sustained till the end of the year, giving the market a much better tone than prevailed during the similar period in 1932.

When the United States went off the gold standard, imported chemicals started to go up and substantial advances were recorded by most of the leading items. There was also a good deal of speculative buying in both foreign and domestic chemicals induced by fear of currency inflation. All these factors combined to make a much firmer market and to do away to a large extent with forced sales at bargain prices and indiscriminate price cutting which were so prevalent during 1932.

Spot prices on most of the leading papermakers' chemicals advanced early in the summer and contract prices for 1934, usually made in the fall, were somewhat higher than the corresponding quotations for 1933. Generally, industrial chemical prices have advanced only about 10 per cent so that they are still below the decline in the value of the dollar as expressed in terms of gold. It is likely, therefore, if the present situation continues, further advances may be looked for. Everything seems to point to a continued improvement in general business conditions and the outlook for the chemical industry for the coming year is certainly much better than it was a year ago.

The industry as a whole is in a much stronger position and the best indication of improved conditions is shown in the increased confidence expressed on all sides that better times are ahead of us, and that the coming year will prove to be more prosperous than the preceding twelve months.

Salt Cake

Demand for Salt Cake during the year was steadily maintained and prices remain practically unchanged. The last six months of the year showed a considerable increase in contract deliveries and the contract price for 1934 delivery is slightly higher than a year ago.

Caustic Soda and Soda Ash

The alkali prices were firmly held during the entire year and shipments were slightly above the average for the preceding twelve months. Contract prices for 1934 are about 5 per cent higher than a year ago.

Paper Makers' Alum

While the demand for sulphate alumina followed very closely the reduced operating schedules of the paper mills, the price remained firm and early in the fall was advanced about 10 per cent. This increased price was also in effect for contract deliveries during the coming year.

Chlorine

Some improvement in the demand for chlorine occurred during the year and the price was advanced materially for contract shipment during 1934. There seems to be a considerable increase in the use of chlorine by the paper makers. In fact, it was reported during the summer that the manufacturers were having difficulty in filling their orders promptly.

Ogden Brower, Jr., Says Business Is Better

Ogden Brower, Jr., president of the Gibbs-Brower Company, Inc., paper and pulp mill brokers and machinery agents, 401 Broadway, New York, says that there is no question but that the demand is improving for good used paper and pulp mill equipment. Mr. Brower states that while the change for the better is not manifesting itself in an overwhelming demand, yet things surely point to a slow and healthy recovery under the leadership of Franklin D. Roosevelt.

Book Paper Industry Greatly Aided by NRA, Leading to Better Conditions Than In 1932

Specially Written for the Annual Number of the PAPER TRADE JOURNAL

The book paper industry in 1933 continued to suffer quite severely from the depression and economic conditions that have been experienced since 1929. On the whole, however, the conditions were somewhat better than they were in 1932.

The Book Paper Manufacturers Association was organized and has been perfected to a very great extent. This association prepared Trade Customs and Trade Practices, also the Book Paper Code, all of which were submitted to General Johnson of the N.R.A., and the Code was finally approved by President Roosevelt in November, 1933.

Marked Improvement in General Situation

Since the approval of the Code, and the entire industry has been operating under this Code, there has been a marked improvement in the general situation. It is now necessary that prices must be filed with the Paper Industry Authority and these prices must not under any circumstances be below cost of manufacture.

No manufacturer can quote a price lower than the file prices. If it should become necessary to make lower prices, these new prices must be filed, together with a statement to the effect that they are not below cost, unless they are filed to meet the competition of some mill with lower cost.

Book Paper Capacity Unchanged

The industry as a whole operated approximately the same as in 1932, which was somewhat below 70 per cent of the capacity. The total book paper production, therefore, was in the neighborhood of 1,200,000 tons. During the year 1933 there were no new book paper machines installed, and as far as can be ascertained at the present time, there is no contemplated installation of book paper machines in the near future.

In the Coated Paper Division, which is operating under the Book Paper Manufacturers Code, the conditions have been almost identical with the conditions surrounding the Uncoated Paper Division, the mills operating slightly less than 70 per cent of capacity.

Outlook for Future Brighter

The outlook for 1934 is very much brighter than at any time since the beginning of the depression in 1929. It seems to be the consensus of opinion of the book paper manufacturers that operating under the N.R.A. is going to be a success because by this it means the elimination of unfair trade practices, quotations below cost, and things that generally brought about the demoralization in the industry.

For the last few months of 1933 conditions were very much improved over the beginning of the year and there is a general feeling among book paper manufacturers that if business improves to such an extent that the mills may be operated anywhere near their capacity, the showing for the year 1934 will be fairly satisfactory.

The repeal of the 18th Amendment, and the return of beer, brought about a very large demand for labels, which necessarily made an increase in the consumption of paper for label purposes to a large extent.

Since America has abandoned the gold standard, the very deplorable condition existing because of the low priced chemical pulp from foreign countries has been leveled up and the severe competition in this class has, to some extent, been eliminated, thus helping, to a very large extent, the self-contained mills who are manufacturing their own raw materials.

Altogether, the outlook for 1934 is very much more encouraging and since the indications for general business seem to be very much improved, we are looking forward to a fairly satisfactory year.

How the Tax Applies on Jute Papers

The Hollingsworth & Vase Company, manufacturers of rope and jute manila papers, East Walpole, Mass., has issued the following notice to users of jute papers:

In view of the misunderstanding which appears to exist regarding the Processing Tax as applied to jute papers, we submit the following information to the trade:

There is no processing tax on jute paper of any description unless it is converted into any of the following products: (1) Multi-wall paper bags; (2) Coated paper bags; (3) Open-mesh paper bags; (4) Paper towels (excluding tissues of the type commonly known as cleansing or facial tissues); (5) Gummed paper tape (paper, one surface of which is covered with gum or other adhesive material, processed for distribution in ribbon form and less than two inches in width).

In other words, the tax applies only to the five finished products referred to above, whether made of jute or of any other fibre, and is not applicable to jute paper as such or to products made from jute paper which do not fall within the classifications referred to above.

Canadian Factory Resumes Operation

Card and Paper Works Limited, of Peterborough, Ontario, Canada, who suffered partial fire loss to their plant the latter part of January, have made a remarkable record of repairing the damage. Shipping was resumed within one week, and its trades throughout the Dominion serviced continuously.

From a recent interview with the principals of the company, it is stated that the loss was fully covered by insurance, and that all operations will be practically at normal by the end of February, including the improved heavy machinery now being installed.

The Canadian Company is affiliated with the National Card, Mat and Board Company, at 4318 Carroll avenue, Chicago, Illinois.

Gibraltar Paper Co. Builds

The Gibraltar Corrugated Paper Company, 1723 Bergen Turnpike, North Bergen, N. J., has begun construction of new addition to plant, comprising new one-story and basement unit, 125 x 300 feet, reported to cost in excess of $65,000, with equipment. The general building contract has been let to Bonanno Brothers, 1827 Bergen Turnpike. It is proposed to have structure ready for occupancy at early date. W. P. Katz is president.

Rags and Paper Stock Rally In 1933, Reaching Peak of Recovery During Midsummer

By Walter R. Hicks, of Daniel M. Hicks, Inc., New York

Ding Dong Bell!
Business went to Hell.
What put it in?
Old Man Depression
What overcame it?
N.R.A.—and we acclaim it.
What a noble act was that
Of a lowly Democrat
Who restored prosperity
All Hail to Franklin **D.I**

Bells have tolled the knell of the year departed, in whose bosom lies buried the obsolete practices of commerce and industry, faulty systems of government and banking, that were doomed to death because they had outlived their misusefullness. And with their passing ends a chapter of our history more devastating than war; and so the bells toll their dirge in the funeral march of time.

The cataclysm that befell the nation from 1929 to 1933 engulfed all business. The economic structure had been builded on a foundation unsound. Captains of industry and financiers graced the porticos; while black ants gnawed through its timbers until it collapsed on an unsuspecting public. It would take an archeologist to unearth from the ruins any particular business and account for its downfall. Yet we must dig up our particular line of endeavor, dust it off and shine it up, and attempt to explain its presence among the debris.

The close of '32 presented a picture that no artist could paint. Full warehouses—and empty pockets. All dressed up and no place to go. A new Party had come into power, and big business was doubtful of the outcome.

March Fourth came. It was more than a date; it was a battle cry—"March Forth!" And the Commander in Chief and a host of legionaires responded.

Waste Paper Prices Rise Rapidly

Business rallied. But the first flush of recovery was hectic, and it exhausted itself, making necessary a period of convalescence. A boom started in the late Spring, reached its peak in Midsummer and faded out. The consuming public was not in a position to buy. The demand was based on anticipation rather than on actual business. The mills were caught short, and scrambled to cover. Stock became scarce and prices mounted rapidly. Supply exceeded demand, the mills dropped out of the market, and prices dropped to the old levels in practicaly all grades of paper stock—the outstanding exception being Wood Pulp.

New and Old Rags Higher

In the New Rag field White Shirts were the leaders, going from $3.50 to over $7.00. In Old Rags, Roofing showed the way, going from 40 cents to one dollar; and in Waste Paper, Mixed advanced from 10 cents to 80 cents, with Magazines second at a low of 40 cents and $1.15 top. Bleached Sulphite went from $1.75 to $3.00; Unbleached from $1.40 to $2.15, and Kraft from $1.25 to $1.90.

1933 was the transition period. The Republic became a Democracy. On March 4 the new custodian closed the banks. Such banks as had not collapsed were being held up. The outsome of elastic credit was "rubber checks." Frozen assets presented a problem, and in order to get at the base Admiral Byrd was dispatched to the South Pole. On April 7 the old order gave way to the new order—and we had real beer instead of near bear. Independence Day was switched from July to December with the repeal of the 18th Amendment. The Gold Standard was abandoned in favor of the brass rail. The government enacted legislation to thwart special interests and monopoly by limiting the production of hogs in the United States. The government spent millions in curtailing the cotton acreage, and are shovelling out millions to destroy the boll-weevil, a natural agent of destruction. And so the adjustment goes on. The Blue Eagle is vanquishing the Blue Beards, and the nation rests secure behind bars of gold.

Ding Dong, Ding Dong, Ding Dong! The New Year is born. The bells resound with a new born hope, vibrating in every hamlet, village and city and on the heartstrings of its people. Faith is restored, confidence revived and vigor renewed and the nation has pledged itself in the support of the New Deal.

Newsprint Production for January

Production on newsprint in Canada during January, 1934, amounted to 188,374 tons and shipments to 187,352 tons, according to the Newsprint Service Bureau. Production in the United States was 84,194 tons and shipments 84,796 tons, making a total United States and Canadian newsprint production of 272,568 tons and shipments of 272,148 tons. During January, 25,477 tons of news print were made in Newfoundland and 1,233 tons in Mexico, so that the total North American production for the month amounted to 299,278 tons.

The Canadian mills produced 49,015 tons more in January, 1934, than in January, 1933, which was an increase of 35 per cent. The output in the United States was 9,772 tons or 13 per cent more than in January, 1933, in Newfoundland 3,270 tons or 15 per cent more, and in Mexico 175 tons less, making a total increase of 61,882 tons, or 26 per cent above January, 1933.

Stocks of news print paper at Canadian mills are figured at 34,711 tons at the end of January and at United States mills 17,784 tons, making a combined total of 52,495 tons compared with 52,075 tons on December 31, 1933.

Marcalus Mfg. Co. to Move to Elizabeth

The Marcalus Manufacturing Company, 197 Grove street, Bloomfield, N. J., manufacturer of waxed and other processed papers, etc., has arranged for lease of sizable space in former building of the Durant Motor Company, Newark and North avenues, Elizabeth, N. J., and will occupy new plant. Possession will be taken on May 1. The company will remove its present works to new location and increase capacity. Nicholas Marcalus, formerly head of the Automatic Paper Machinery Company, Elizabeth, is president.

General Paper Products Incorporates

Articles of incorporation have been filed with the Indiana secretary of state here by the General Paper Products, Inc., of Marion, Ind., formed to manufacture paper and paper products. The corporation has an initial capital stock of $100,000, divided into 5,000 shares with a par value of $20 each and the incorporators are Schulyer B. Miller, W. L. Miller and V. C. Miller. Mr. Schuyler Miller will be the resident agent.

Progressive Development in Rehabilitation of Newsprint Industry Occurs During 1933

By C. L. Sibley, Regular Correspondent of the PAPER TRADE JOURNAL

Old time optimism has returned to the pulp and paper industry of Canada. That is the salient fact with which leaders in the industry have entered upon the year 1934. It does not mean that the men who operate the industry, or the many thousands who have money invested in it, are nursing any of the extravagant notions or hopes that were rampant in 1929. But it does mean that the last three-quarters of the year 1933 witnessed progressive development in the rehabilitation of an industry which at the beginning of the year was in such a state of chaos as to be the despair of all connected with it, and it does mean that the year 1934 has opened with every prospect that the industry will be stabilized upon a reasonably profitable basis in the months that lie before us.

Due largely to the cut-throat competition which raged in the news print section of the industry, there was a drop of something like $17,000,000 in the value of the exports of paper and manfactures of paper in 1933, as compared with those of 1932. But that drop in value does not tell the whole story. What matters is that in point of volume news print production is once more steadily increasing, and that the closing months of the past year witnessed an attempt to stop any further price-cutting, thanks to the operations of the NRA.

After trailing behind 1932 for the first five months, news print production in Canada continued to show gains for every month from June on, and with the help of an increase of 36,622 tons in December over the same period of 1932, the total production in Canada last year amounted to 2,017,004 tons. This compared with 1,907,566 for the year 1932, showing a gain of 109,438, or slightly over 5 per cent. For the year as a whole the news print industry operated at about 53 per cent of normal capacity, as against 50 per cent in 1932 and 58 per cent in 1931.

The results for 1933 are regarded both as satisfactory and encouraging for the new year. For with substantial gains over the early part of last year now practically assured, output for 1934 should make further progress towards the all-time peak set up in 1929 of 2,728,827 tons. The 1933 output represents a little over 70 per cent of that of 1929.

Not only do the figures for 1933 establish the first gain over a previous year seen since 1929, but they show that for the first time in the history of the Canadian industry production in this country has been more than double that of the United States.

Official Figures of Year's Exports

Reviewing all the business of the pulp and paper industry the following facts stand out:

WOOD PULP—Volume and value of exports showed an increase in 1933 over 1932 in kraft, bleached sulphite, unbleached sulphite, ground wood pulp, other wood pulp and wood pulp screenings. The total exports of wood pulp and screenings were 12,170,186 cwt., valued at $23,354,637, as compared with 9,045,857 cwt., valued at $18,930,064 in 1932.

PULPWOOD—The total pulpwood exported amounted to 651,958 cords as compared with 529,019 cords in 1932, and the total value to $4,696,459 as compared with $4,830,506 in 1932.

BOOK PAPER—The total volume exported in 1933 amounted to 32,261 cwt., as compared with 22,407 cwt. in 1932 and the total value to $226,982 as compared with $184,851 in 1932.

NEWS PRINT PAPER—The total volume exported in 1933 amounted to 36,762,098 cwt., as compared with $35,535,275 cwt. in 1932 and the total value to $69,200,515 as compared with $82,966,199 in 1932. In December, 1933, there was a notable increase, exports being 3,712,737 cwt., valued at $6,437,759, as compared with 2,739,866 cwt., valued at $5,666,412 in 1932.

KRAFT WRAPPING PAPER—The total volume exported in 1933 amounted to 123,903 cwt., as compared with 193,228 cwt. in 1932, and the value to $369,058 as compared with $788,279 in 1932.

OTHER WRAPPING PAPER—The total volume reported in 1933 amounted to 23,459 cwt., as compared with 14,599 cwt. in 1932, and the total value to $45,053 as compared with $69,589 in 1932.

BOND AND WRITING PAPER—The total volume exported in 1933 was 862 cwt., as compared with 170 cwt. in 1933, and the total value $8,432 as compared with $2,007 in 1932.

HANGINGS OR WALL PAPER—The total volume exported in 1933 was 819,582 rolls as compared with 962,170 rolls in 1932, and the total value $96,428 as compared with $125,533 in 1932.

BAGS, BOXES AND CARTONS OF PAPER—The total value of exports in 1933 was $59,596 as compared with $59,361 in 1932.

WASTE PAPER—The total volume exported in 1933 was 288,380 cwt., as compared with 187,241 cwt. in 1932, and the total value $195,897 as compared with $105,759.

PULP AND FIBRE WALL BOARD—The total volume exported in 1933 was 192,868 cwt., as compared with 149,681 cwt. in 1932, and the total value $605,745 as compared with $524,231 in 1932.

PAPER BOARD—The total value exported in 1933 was $1,162,016, as compared with $1,168,500 in 1932.

ROOFING PAPER—The total volume exported in 1933 was $79,892, as compared with $51,271 in 1932.

OTHER PAPER AND MANUFACTURES OF PAPER—The total volume exported in 1933 was $346,518, as compared with $277,959 in 1932.

Recovery Began in April

Reviewing the record of the past year, it may be said that the time when the news print industry began to recover was last April, for then signs became evident of an improving demand. And also, it will be remembered, it was on April 1 that a further slash of $5 per ton in the price of news print took effect. This price reduction brought home, more clearly than before, that the operators were cutting their own throats. It then became patent to all that no good could be expected by attempting to secure new business by price concessions, seeing that the amount of business available was not sufficient to offset rebates given to contract buyers. The situation was clearly outlined by the International Paper Company, which in announcing a discount of $5 per ton "to meet over price cuts and secret concessions, made for the most part by insolvent mills," said:

"Publishers generally are aware of the difficulties now

facing the news print industry. They realize the importance of a stabilization of news print prices at levels that will enable efficient mills, conservatively capitalized, to earn a living and continue to serve the best interests of their customers.

"They know that this is not the situation today, that of the seven largest news print companies, which controlled 70 per cent of the tonnage east of the Rockies, five have stopped paying their bond interest and either have been reorganized or are (in whole or in part) in receivership, bankruptcy, or the hands of their bondholders, and that the remaining two, including International, have reported deficits. They know that these signs of distress appeared in large part when news print was at a higher price and the volume of consumption greater than today.

They know that the news print industry, faced as it is with the possibility of inflation coming and bringing higher costs with it, and faced also with the necessity of financing heavy raw material inventories to insure continuous operation, can ill afford to make concessions at this time.

"They appreciate these problems of the news print industry and are prepared to co-operate with it to a great extent. It is necessary, however, that the news print industry itself co-operate to save itself. When it fails to do this and widespread concessions in price, open or secret, become oppressive to publishers paying the established price, then these publishers expect from their own sources of supply such adjustment in price as will bring about a fair equilibrium of prices as between competing publishers and as between different sections of the country.

"That is what has happened in the news print market. Open price cuts and secret concessions, even though made for the most part by insolvent mills, have brought about such a situation as forces a further reduction in a price already too low.

"International has recognized these facts reluctantly, and has acted today with the fullest appreciation of the gravity of the situation to the investor whose losses have already been so heavy. The welfare of the industry in the last analysis depends upon the ability of these investors to bring about its stabilization along sound lines."

The Effect of the NRA

After this price cut there was a lull in the situation. Then came in quick succession President Roosevelt's nation-wide industrial plan; the adoption by the United States news print operators of a code of fair competition as permitted under the NRA; the formation of the News Print Export Manufacturers Association of Canada to work in co-operation with the Association of News Print Manufacturers of the United States in the working out of the NRA code for the news print industry; and then the action taken by the United States Government in stopping dumping of Canadian news print by requiring Canadian exporters to put up a bond for each carload of news print going across the border pending investigation as to price and pending also the working out of the application of the provisions of the code. This action at the border was hailed with delight in Canada as the first effective reconstruction measure for the industry.

Fight for Control of Price Bros. & Co.

In the wave of insolvency which has affected the major news print companies of Canada the most outstanding feature has been the fight for the control of that gigantic news print and lumber corporation, Price Brothers and Company of Quebec, which has for the time being been under the control of the Hon. Gordon W. Scott, in his capacity as trustee in bankruptcy for the company. The Bondholders' Protective Committee which had been representing the security holders, accepted an offer made by the great English news print firm, Bowater's Paper Mills, Limited, by which this company would finance the concern and undertake its reorganization. Mr. Scott, however, critized the offer as unsatisfactory, and then came an offer more favorable to those holding securities submitted by parties acting through the Duke-Price interests, and including the Aluminum Company of America, Lord Beaverbrook of the London Daily Express and Lord Rothermere of the London Daily Mail. Then it was announced that an amended and more favorable offer would be made by Bowater's Paper Mills. There the matter stands at present, with the prospects of a battle for proxies for the meeting of bondholders at which the fate of the company will be decided.

Canada's Most Important Manufacturing Industry

Statistics brought up to date to the beginning of 1933 show that the pulp and paper industry is the most important manufacturing industry in Canada, heading the lists for gross and net values of manufactured products as well as for total number of employees and distribution of wages and salaries. In total capital invested the industry is second only to electric light and power plants.

The industry has headed the lists in wage and salary distribution since 1922 when it replaced the saw-mills in this respect and it has been first in gross value of products since 1925, exceeding the gross value of flour mill production. In these comparisons, only the manufacturing stages of the pulp and paper industry are referred to, no allowance being made for the capital invested, the men employed, the wages paid nor the products of the operations in the woods which form such an important part of the industry as a whole.

Considering only the manufacturing aspect of the industry, the gross value of production in 1932 was $135,634,983 a decrease of 22 per cent over the figure for 1931. The gross values of the manufactured products of the industry for the five years to the beginning of 1933 are as follows:

	Gross Production
1928	$233,077,236
1929	243,970,761
1930	215,674,246
1931	174,733,954
1932	135,634,983

(Figures for 1933 are not yet complete.)

This gross value represents the sum of the values of pulp made for sale in Canada, pulp made for export and paper manufactured. It does not include pulpwood nor the pulp made in combined pulp and paper mills for their own use in making paper.

Pulp and Paper Industry Heads List

The net value of production is one of the best indications of the relative importance of a manufacturing industry. It represents the difference between the values of raw materials and finished products. In the pulp and paper industry it is obtained by subtracting from the gross value of production, as described above, the sum of the values of pulpwood and chemicals, etc., used in pulp-making and pulp, chemicals, etc., used in paper-making. The pulp made in combined pulp and paper mills for their own use in paper-making is considered as a stage of manufacture and is not included either as a product of the pulp mill or a raw material of the paper mill.

With regard to the net value of production the pulp and paper industry has headed the lists since 1920 when it

replaced the saw-mills. The net value of production for the last five years was as follows:

Net Production

1928	$144,586,815
1929	147,096,012
1930	133,681,991
1931	110,786,276
1932	86,673,512

(Figures for 1933 are not yet complete.)

If operations in the woods are taken into consideration, the total value to Canada of the industry as a whole may be considered as the sum of the values of pulpwood and pulp exported and the gross value of paper products. This removes any duplication that might arise by the inclusion of pulpwood used in Canadian pulp mills, and pulp used in Canadian paper mills but makes no allowance for pulp that might be used in Canada for purposes other than the manufacture of paper, such as the manufacture of artificial silk, fibreware, etc. This total in 1932 amounted to $137,862,394, a decrease of 33 per cent over 1931.

Net Loss of Five Establishments

There was a net loss of five establishments in the industry as a whole from 1931 to 1932, distributed as follows:

One pulp mill and one paper mill closed down in Quebec, while another mill manufacturing paper was transferred to the "Roofing paper" industry. The closing down of one combined pulp and paper mill was offset by the re-opening of another one.

One pulp mill in Ontario closed down while another mill which made pulp only in 1931 made pulp and paper in 1932.

One pulp mill in Nova Scotia closed down.

In New Brunswick, one pulp-mill closed down but another resumed operations.

Production of the Mills

The 72 mills manufacturing pulp produced 2,663,248 tons valued at $64,412,453 as compared to 3,167,960 tons in 1931, valued at $84,780,809, representing a decrease of 16 per cent in quantity and 24 per cent in value. Of the total for 1932 the combined pulp and paper mills produced 2,097,328 tons valued at $42,879,294 for their own use in paper-making. A total of 108,233 tons valued at $4,006,416 were made for sale in Canada and 457,687 tons valued at $17,526,743 were made for export.

The 70 mills making paper in 1932 produced 2,290,790 tons of paper valued at $114,101,824 as compared to 2,611,225 tons in 1931 valued at $143,957,264, a decrease of 12.3 per cent in quantity and 20.7 per cent in value.

News Print More than Double That of U. S.

News print paper made up 83.8 per cent of the total reported tonnage of paper manufactured in 1932. The news print amounted to 1,919,205 tons valued at $85,539,852, as compared to 2,227,052 tons in 1931 valued at $111,419,637, a decrease of 13.8 per cent in tonnage and 23.2 per cent in total value. The Canadian production of standard news print was 89.5 per cent greater than that of the United States during 1932. During the year 1933, however, the Canadian output of standard news print was, for the first time in history, more than double that of the United States. The output of Canadian mills in 1933 was 2,017,004 tons, while that of the United States was 946,374 tons.

The total number of employees on salaries and wages in pulp and paper mills in 1932 was 24,557 and the total payroll was $28,334,402 as compared to 26,669 employees in 1931 with salaries and wages amounting to $34,792,013.

Production of Pulpwood

The apparent total production of pulpwood in 1932 was 4,222,224 cords valued at $36,750,910 as compared to 5,199,914 cords in 1931 valued at $51,973,243. Of the total production in 1932 about 85 per cent or 3,602,100 cords were manufactured into pulp in Canadian pulp-mills while the remaining 15 per cent or 620,124 cords valued at $4,830,506 were exported to the United States. These figures show a decrease from 21.6 per cent in 1931 to 15 per cent in 1932 in the proportion of pulpwood exported and the total quantity of pulpwood exported unmanufactured also shows a decrease. The quantity of pulpwood used in Canadian mills has decreased by 12.1 per cent during this period. There was a small importation of pulpwood into Canada.

The total value of all materials going into the manufacture of pulp in 1932 was $38,217,830 and the total value of all pulp produced, including that made in combined pulp and paper mills for their own use was $64,412,453.

The total value of all materials used in the manufacture of paper in 1932 including pulp made in combined establishments for their own use was $53,776,135; the total value of paper and miscellaneous pulp products manufactured was $114,101,824.

Contribution to Trade Balance

The gross contribution toward a favorable trade balance for Canada resulting from the actitvities of the pulp and paper industry as a whole in 1932 amounted to approximately $102,559,435, being made up of the difference between the value of pulpwood exported and pulpwood imported, amounting to $4,558,844, the difference between the value of pulp exported and pulp imported amounting to $18,467,415, and the difference in value between paper exports and imports amounting to $79,533,176. The total for 1931 was $139,844,298.

American Ownership of American Industry

Of particular interest to the United States are statistics issued during the year by the Dominion Bureau of Statistics showing that American ownership of the Canadian pulp and paper industry is estimated at something around 40 per cent. The total capital employed is set down at $1,200,000,000, this estimate, be it noted, including not only pulp and paper mills, but all paper industries of any kind, including paper boxes and bags, lithographing, publishing and so forth. Of the total the outside capital is between $350,000,000 and $400,000,000, immediately traceable American holdings being between $315,000,000 and $360,000,000 and holdings in Great Britain between $35,000,000 and $40,000,000. A later return shows that at the beginning of 1933 the total investment in the pulp and paper industry proper in Canada was $630,176,540, distributed in the following proportions: Quebec Province, $309,875,059; Ontario, $194,772,433; British Columbia, $52,256,905; other provinces, $73,272,143. The figures, it should be said, do not completely reveal the investments in the industry, as they refer only to the manufacturing stages. No allowance is made for the capital invested in wood and wood operations (which form an important part of the industry), owing to the difficulty of separating the production of pulpwood from the production of saw-logs and other primary products.

Large Idle Capacity

Canada's news print installations are capable of turning out 12,450 tons daily, and at present it is estimated that there are 4,900 tons of capacity idle. This idle or excess capacity is one of the greatest burdens carried by the in-

dustry. Some of the machines are antiquated, others are unfavorably located as to wood supply. An increase in demand will bring some of this idle capacity back into operation, but much will never be operated again unless prices rise to a level far beyond that now prevailing.

Scientific Developments in Canada

In regard to the scientific side of the news print industry, some advances have been made in Canada during the year that are worthy of note, notably by the Pulp and Paper Laboratory in Montreal, which is run under the auspices of the Canadian Government, the Canadian Pulp and Paper Association and McGill University.

The laboratory has worked out a method by which, through the use of sulphuric acid and formaldehyde, results may be obtained for determining accurately the quantity of pulp that can be made from a given quantity of wood, expressed in cords, feet board measure or other unit. This is done by a method for determining the amount of lignin actually dissolved in chemical pulp when the wood is "cooked" and the amount of lignin left in the wood.

Produces New Instrument

The laboratory has also, for the first time, produced an instrument, embodying a principle not hitherto used, for the screen classification of pulp fibres. The instrument, which has been designed and built in the laboratory, and which has functioned satisfactorily in the accurate classification of the sizes of pulp particles, gives the promise that final standardization will shortly be accomplished.

As a guide to the production of better pulp, the laboratory has made a study of the physical characteristics of commercial ground-wood pulp and accumulated data which has been circulated among ten Canadian mills which cooperated. This involved the examination in detail of over one hundred pulps.

Investigates Removal of Caustic Soda

An investigation regarding the removal of caustic soda from cooking liquor by chips has resulted in the furnishing of a guide to the fortifying of the cooking solution as the digestion proceeds and the temperature rises. It was found that the rate of removal is rapid even at low temperatures and increases as the temperature rises.

As a result of a study of the moisture content of wood on pulp yield and quantity, it was found that the moisture content of the wood exerted no influence on the result in regard to spruce, on which the kraft process was used, provided account was taken of the dilution of the liquor from the moisture of the wood and provided also that sufficient liquor was present at all times during the cook to completely cover the chips. Where there is not sufficient liquor to cover all the chips at all times the natural diffusion of chemical into the wood is interrupted and therefore chips with the greater moisture content will contain the most dilute liquor. Where diffusion is allowed to take place and where the liquor circulates freely about the chips an equilibrium is rapidly reached throughout the charge and all the wood has the same treatment.

Investigates Decay of Pulpwood

The Forest Products Laboratories at Ottawa reports, in relation to further investigation of decay of pulpwood in blockpiles, that study of 50 sticks furnished by a pulp and paper company showed that the rate of deterioration in those particular samples was not rapid, though it had been claimed that in some cases loss through decay amounted to as much as 10 per cent per year. Collections of fruiting bodies of fungi and of rotted wood on which they were growing, made from pulpwood stored at several Canadian pulp and paper mills, showed *Lenzites sepiaria* to be the most common fungus. *Stereum sanguinolentum* was also frequent, and several other fungi were found. Six new species of fungi of the genus *Cadophora* were isolated during the year.

The Southern Pine Experiment

The experiments that have been made during the year in the production of news print from southern pine has naturally been of great interest to Canada because of the avenue opened up for further competition with Canadian news print. The feeling in the industry here is that for the present Canada has little to fear from the development, since this country holds a superior position in regard to power, raw material, labor and location in respect to markets. Robert P. Kernan, president of the Dounacona Paper Company, in stressing these points, says: "Paper can be made perfectly well from white pine. It can be made from straw, corn cobs, and all sorts of things. But I cannot see that they can cut enough wood and get enough power to interfere with the Canadian news print industry."

Hydro Power—Important Developments

There have been important developments during the year in the hydro-electric industry, which is intimately bound up with the pulp and paper industry, not only because the latter industry is dependent on hydro power for its very existence, but because most of the larger pulp and paper concerns are themselves owners of large power enterprises. The outstanding feature of the year in this connection was the action of the Quebec Legislature in completely reversing its stand in regard to the export of hydro-electric power. For years the Quebec Government had been opposed to the export of any such power to the United States, on the ground that it would tend to retard industrial development in the Province by providing foreign companies with one of the principal factors in competition. Due to the large developments under way, and to the market falling off in the demand for electric power mainly through the depression in the news print industry, the government early in the year reversed its stand and secured the approval of the Legislature to a bill permitting the export of hydro power up to a total of 300,000 h.p.

As the control of the imports and exports of Canada is, however, exclusively within the jurisidiction of the Federal Government, the decision of the Quebec Legislature is dependent upon the permission of the Dominion Government. When the matter was brought up in the Federal Parliament in May last, Premier Bennett announced that it was the decision of the Federal Government, "as at present advised," that it would not grant any licenses for the export of power. He said:

"We cannot afford to export power and create community life in another country with industrial activity and then, when the requirements of our own country call for cutting off the license for export, contemplate that situation without having regard to a statement made by a president of the United States that such action on our part would practically be considered an unfriendly act. Under those cimcumstances I make the statement that we shall not grant any such licenses for the purpose of relieving any doubt there may be in the minds of any honorable member that the government has in contemplation the granting of licenses for the export of power."

There the matter has remained ever since. There has been no intimation that the Quebec Government has taken any further action, though there always remains the possibility of an arrangement satisfactory to both governments being effected, or failing that of a bitter controversy between them. It is to be noted that the Federal Government

"Many a mill has been in the red because it lacked beaters —but no mill ever went into the red because it had too many beaters"

-Dilts-
MACHINE WORKS Inc. FULTON, N.Y.
"Your Paper Is Made in Your Beaters"

is overwhelmingly Conservative in politics and the Quebec Government overwhelmingly Liberal.

Recovery in Hydro Power Demand

Meanwhile there has been a marked recovery in hydro-electric power demand, the output in the latter months of 1933 not only exceeding that of any month in 1932, but being actually slightly higher than in any period in 1929, when the previous high record was established. This was due partly to the use of secondary power for steam generation, partly to business recovery, and partly to the increased use of electrical appliances and lighting in the home. Latest available statistics show that more than a third of Canada's 35 principal industries are 90 per cent electrified, and 27 have a ratio of more than 80 per cent. Industry as a whole is more than 75 per cent electrified.

While no new water power understakings of magnitude were initiated during the year, 270,210 h.p. of new installations were brought into service as a result of work on developments already under construction.

The increase in installations last year resulted chiefly from the completion of the Masson development of the MacLaren-Quebec Power Company on the Lièvre River in Quebec (136,000 h.p.) and the bringing into operation of the initial installation of the Canyon development on the Abitibi River (120,000 h.p.) for the Ontario Hydro-Electric Power Commission. This latter development was initiated by the Abitibi Power and Paper Corporation.

Shawinigan Water and Power Company is rapidly completing the 80,000 h.p. initial installation at Rapide Blanc on the St. Maurice River; this portion is to be in operation by the beginning of next May, after which further installations will be proceeded with in order to have 160,000 h.p. available by autumn.

Hearing on Proposed Mill Purchase Agreement by Kraft Board and Paperboard Industry

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 21, 1934—Representatives of the kraftboard and paperboard manufacturing industry on February 15 appeared before Deputy Administrator W. W. Pickard with an entirely new plan for the stabilization of their industry and curtailment of overproduction resulting in ruinous price-cutting, and outlined their plan at a public hearing in the Raleigh Hotel.

Plan Differs from Former Projects

The plan, which differs to a marked degree from any former projects designed to control production or stabilize industries, through their codes, is not sponsored by any trade association or code authority, but is brought forward by members of the industry acting individually or for small unofficial groups.

In effect the manufacturers would set up a corporation armed with money collected from the industry on a tonnage production basis and with authority to buy up plants and dismantle or close them if they are an uneconomic burden to the industry. No attempt would be made to purchase plants unless the owners were perfectly willing to sell.

John L. Barchard, speaking for the proponents of the plan, discussed the make-up of the industry, explained that the major cost of production was in machinery, thus making the cost of production for a plant operating on a full week basis as much as 16 per cent less per ton than when working only half-time each week or less. Labor costs in the industry amount to only about 10 per cent of the total cost.

Afater explaining his background and the purpose to purchase bankrupt or unprofitable plants, Mr. Barchard continued:

Under Supervision of NRA

"The mills so acquired will be subject to operation under the general supervision of the Administrator of the NRA to insure at all times a sufficient supply to meet demand. It is not contemplated that the acquired mills will be regularly operated by the new corporation but that they will be maintained in operating condition and constitute a reserve or safety valve to go into immediate operation at such times when it is necessary to create an additional supply to balance an unusual demand. The operation of this reserve will be more orderly and economic than the present unplanned and irregular opening of paper board mills in the event of a rising market. If it is necessary to operate reserve mills held by the corporation, those mills will be first selected to operate which can and do so most economically and with the least disturbance to labor and industry.

"The mills to be purchased, whether large or small, are those that have become uneconomic to operate either because of obsolescence or because of location in relation to supply of raw material, or distance from available markets or congestion of present capacity.

"Adequate provision is made in the agreement for the protection of labor by providing that no mill if operating can be acquired and closed until all employees have been offered equally remunerative positions. The agreement is voluntary upon each contributor, but a small burden which in the aggregate will permit definite accomplishment."

In summing up the benefits, Mr. Barchard said it would help the manufacturer by removing the pressure which has caused the unethical methods and ruthless price cutting and would prove of especial advantage to the small manufacturer; would benefit the manufacturer approaching bankruptcy by giving him a buyer for his plant ready to purchase at a fair price permitting investors to realize some if not all of their investment; would benefit labor by concentrating employment around efficient mills with sufficient volume of business to permit full operation each week and permit the introduction of shorter hours without a corresponding reduction in weekly earnings.

Unused Capacity of 40 Per Cent Indicated

"The figures," Mr. Barchard continued, "indicate an unused capacity of about 40 per cent, half of which, or 20 per cent has provided the undue influence of overproduction. The removal of this 20 per cent will suffice for the purposes of the plan and provide sufficient flexibility to meet seasonal variations. The number of competing companies will not be reduced to any substantial degree. These companies will still be competing with each other as to quality and price, and with costs averaging at least $7.00 per ton lower due to the fuller operation. Only a small proportion of the $7.00 will be used for the proposed plan itself. The inevitable tendency of this competition will be to pass on to the public as well as to labor, some of the savings in the cost. No company in the industry now controls as much as 10 per cent of the combined output, and with

the plan fully in effect, the increase in the tonnage position of any particular company would be relatively negligible. Hence the plan in no respect promotes monopoly."

Mr. Barchard was supported in his plea by R. J. Cullen, of the Southern Kraft Corporation, W. G. Latham, Fort Orange Paper Company and Foreman N. Leopold, of the Morris Paper Company, all of whom said theirs were small companies and would be greatly benefited by the plan in operation.

The Plan Attacked

The plan was attacked at great length by Herman E. Michl and John F. Atkin representing the Paperboard Institute, Inc., as being conducive to monopolies. Mr. Michl said that the same sort of things had been tried by the oil, sugar, whiskey and tobacco industries back in the eighteen nineties and had been pronounced trusts by the Federal Courts.

He declared that the alleged overproduction as claimed by members of the industry was greatly exaggerated and that the percentage of operation to actual capacity in the kraft board and paper board industry was considerably higher than in most other industries. He claimed that in figuring capacity, plants and machines which have been stripped of their parts or completely dismantled, had been figured in as potential producers.

Atkin read a long list of letters into the record from members of the industry protesting against this plan, although many of them merely read that they protested against any production control or allocation of orders.

Sol Herzog, speaking for the National Paper Box Manufacturers Association, which is in effect the consumer for this industry, said that his clients regarded with favor some such plan as this, but insisted that provision must be made for complete publicity of the proposed corporations acts and to prevent new plants springing up in place of those brought in by the corporation, thus maintaining the chaos at present existing.

Opposition was also expressed by Leon Henderson, assistant to the Administrator for the Consumer, who stated that all industries coming to the NRA with plans for bettering their industry, completely forgot to suggest that they increase production. This plan would in effect bring about a cartelization in the industry, he said.

O. M. Kile, representing the Mail Order Association of America, who has appeared at all code hearings where any form of price-fixing or published price lists were contemplated, told the Deputy Administrator that he was so certain that no such plan as this would be permitted that he would not present his customary brief in opposition.

Carl Hauck, representing the Consumers' Advisory Board, announced that the Board was opposed to the project as there was no provision for protection of price to the consumer.

New England Section of TAPPI Meets

HOLYOKE, Mass., February 20, 1934—The monthly dinner meeting of the New England Section of TAPPI was held at the Hotel Nonotuck in this city Friday night, about 125 attending. Fred C. Clark of the Skinner-Sherman Company of Boston presided and papers read were followed by discussion. Miss Helen Kiely, technician for the American Writing Paper Company, Inc., chairman of transportation for the section, spoke of the advantageous rates obtained and President Clark expressed his pleasure at the unexpected growth and success of the organization. Papers were read by Dr. A. O. Munsell of Baltimore on "Permanency of Paper;" and Dr. Harry Lewis of Appleton, Wis., on "Color in its Relation to Paper."

Paper Prospects in the South

V. D. Simons, the well-known paper mill engineer of Chicago, gave out the following interview during a recent visit to the South:

"The fundamental purpose of my visit to your charming city was to visualize the great discovery of Dr. Herty in commercially demonstrating the practical use of your Southern woods as a raw material available in unlimited quantities for the various pulps now being imported and above all as the raw material for supplying American publishers with a perpetual supply of American made paper, and thus making them independent for all time from possible dictation of foreign governments.

"Beyond the very evident desirability of this, I have been studying the problem of making available a grade paper at reasonable costs to permit more attractive printing and color display advertising along the lines now so highly developed in magazine advertising.

"This now is possible through the discovery of Dr. Herty's, and I look forward to the immediate future when this will be reality and will result in great economic advantages to the people of the South in particular and the American people in general.

"This development meets in every way the acclaimed program of our President. During the development period and the construction of these industries, it will immediately provide useful employment for many thousands in every section of the country through the capital goods industries.

"It will provide useful and lasting employment for the C. C. C. through reforestation, will contribute to the elimination of soil erosion, and will provide uses for many of the marginal lands planned to be taken out of cotton cultivation.

"When fully developed, the industry will provide continuous employment for from fifty to seventy-five thousand heads of families, and will create a product with an annual value of some two hundred million dollars."

Buys Leesburg Grass Fibre Co.

The Southern States Paper Manufacturing Company, Leesburg, Fla., recently organized by P. B. Alsobrook, Leesburg, and associates, has concluded negotiations for purchase of local plant of Leesburg Grass Fibre, Pulp and Paper Company. An expansion and improvement program will be carried out, including installation of equipment in different mill departments. Company will manufacture paper from saw grass and wood pulp. A tract of saw grass property in vicinity of mill at Lake Griffin has been acquired and will be developed for raw material supply. Similarly, a large tract of slash pipe land has been secured in Marion, Lake and Seminole Counties, and will be developed to an annual output of about 300,000 cords of pulp wood for mill service. Entire project is reported to cost over $80,000. It is proposed to have the plant ready for service at an early date.

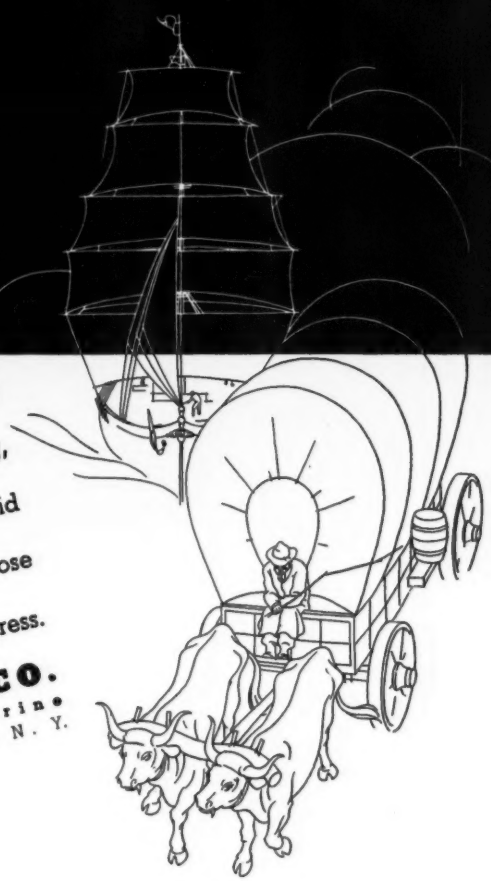
To Make Paper Mache at Leetonia

The Paper Maché Company, Pittsburgh, Pa., affiliated with the Adcraft Products Corporation, 117 North Highland avenue, Pittsburgh, Dr. K. T. Peters, president, has arranged for lease of portion of buildings of Youngstown & Ohio Railroad at Leetonia, Ohio, comprising several one-story structures, and will remodel and improve for new main plant. The company will install equipment for large output of paper maché products. It is expected to have new plant ready for service in about a month.

INITIATIVE

EXPERIENCE

PROGRESS



To be the first in any enterprise—whether it's discovering better lands, or making chemicals that help to better living, is an honor. So we are proud that EBG is the first Liquid Chlorine in this country . . . that its name reflects those "pioneer" qualities . . . initiative, experience and progress.

ELECTRO BLEACHING GAS CO.

Pioneer Manufacturer of Liquid Chlorine
Main Office: 9 East 41st Street, New York, N. Y.
Plant: Niagara Falls, N. Y.

EBG Liquid Chlorine

Paper Men Hold Annual Meetings in New York

American Paper and Pulp Association and Affiliated Organizations, Technical Association of the Pulp and Paper Industry and National Paper Trade Association Hold Conventions at the Waldorf-Astoria Hotel—NRA Among Main Topics Discussed.

Optimism prevailed at the Fifty-seventh Annual Meeting of the American Paper and Pulp Association and affiliated organizations, which opened at the Waldorf-Astoria, New York, last Monday, and continued the better part of the week. This was the first convention held since the inauguration of the National Recovery Act and a record attendance was attracted to take part in the many discussions of the Code of Fair Practice under which the industry is now working. Trade Customs and other vital problems of the industry were also thoroughly thrashed out during the week.

A. P. & P. A. Elect Officers

At the dinner and meeting of the Board of Governors of the American Paper and Pulp Association, held Thursday evening, the following officers of the association were elected:

S. L. Willson Heads Association

President, S. L. Willson, American Writing Paper Company, Inc., Holyoke, Mass.

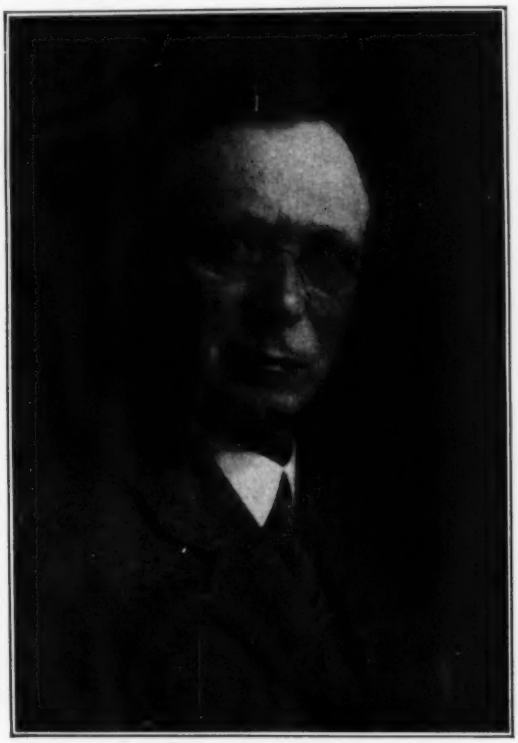
Vice-presidents: George H. Mead, The Mead Corporation, Chillicothe, Ohio; Hugh J. Chisholm, Oxford Paper Company, New York; Stuart B. Copeland, Eastern Manufacturing Company; H. W. Ellerson, Albemarle Paper Manufacturing Company, Richmond, Va.; D. C. Everest, Marathon Paper Mills Company, Rothschild, Wis.; A. R. Graustein, International Paper Company, New York; F. J. Sensenbrenner, Kimberly-Clark Corporation, Neenah, Wis.; Norman W. Wilson, Hammermill Paper Company, Erie, Pa.; J. D. Zellerbach, Crown Willamette Paper Company, San Francisco, Cal.; John L. Riegel, Riegel Paper Corporation, New York City.

Executive Secretary, Charles W. Boyce, 122 East 42nd street, New York.

The Board of Governors consists of the presidents of the various divisional groups.

Paper Classification

One of the most important meetings of the week was the Symposium on Paper Classification and Standards held on Monday at the Astor Gallery, both the American Paper and Pulp Association and the Technical Association of the Pulp and Paper Industry, taking part in the proceedings. Allen Abrams, president of the Technical Association, was the presiding chairman; and S. L. Willson, president of the American Paper and Pulp Association the honorary chairman.



S. L. WILLSON, President

Charles W. Boyce, executive secretary of the American Paper and Pulp Association, in his opening remarks, declared that he believed the standardization of paper grades ranked among the most difficult jobs in American industry, since it is necessary to handle more than 10,000 various grades.

Dr. L. J. Briggs, director of the United States Bureau of Standards, Washington, D. C., in a paper read by Warren E. Emley, chief of the division of organic materials of the bureau, promised cooperation in endeavors to standardize the many varied products of the paper and pulp companies.

Economic Aspect of Specifications

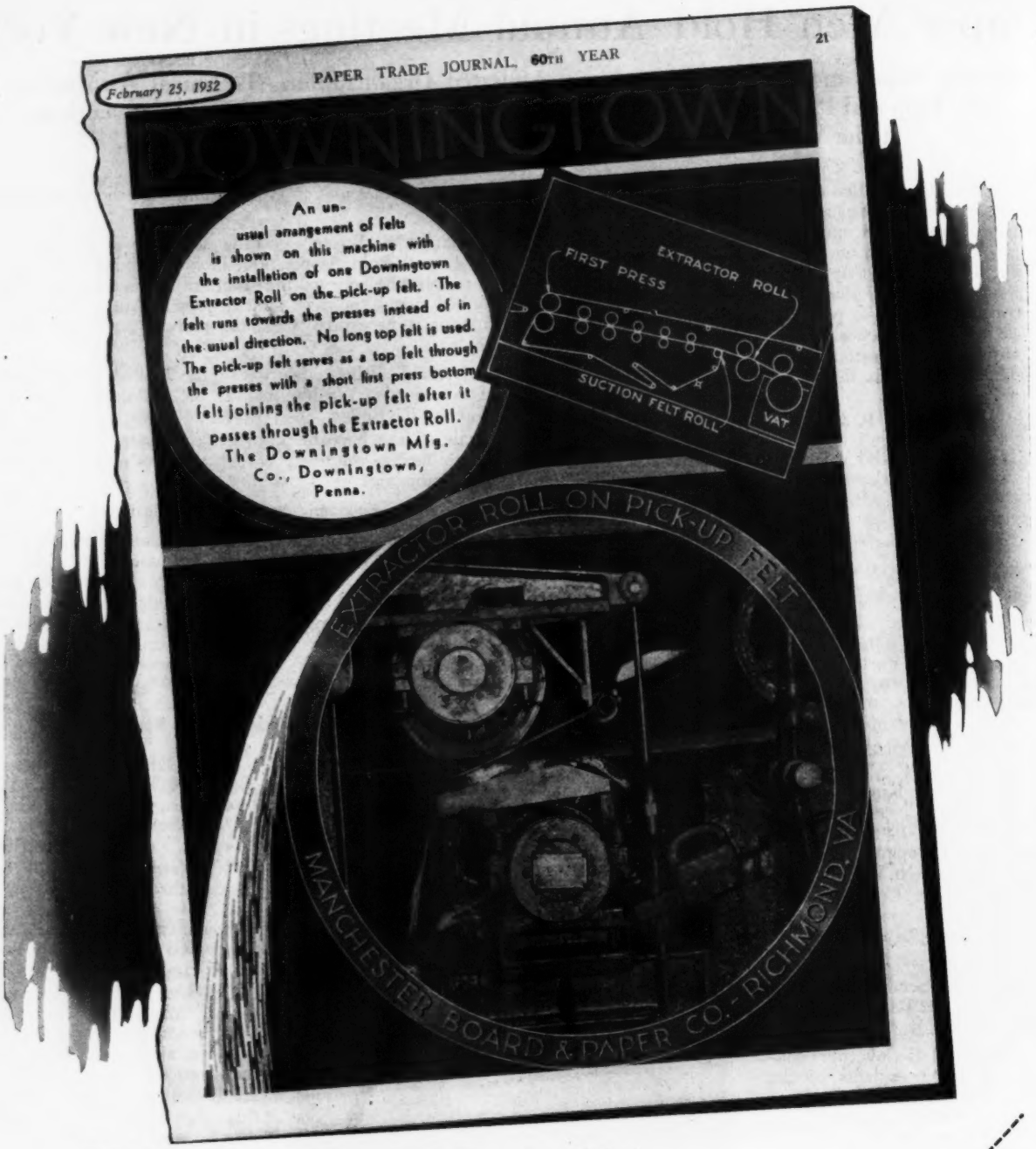
J. E. Plumstead, manager of the Jessup & Moore Paper Company, of Wilmington, Del., discussed the "Economic Significance of Paper Specifications" in an interesting manner. He reviewed the respective attitudes of paper makers and paper buyers regarding specifications. The possibility of establishing paper standards to permit competitors to comply with the NRA regulations was indicated by the speaker as a fortunate development of the recovery program.

F. C. Clark Presents Plan

F. C. Clark, vice-president of Skinner & Sherman, Inc., Boston, Mass., gave an address on "Trade Names and Their Significance," which is printed in full on another page of this issue of the PAPER TRADE JOURNAL. He said that much confusion exists today in the paper industry due to the many basic sheet sizes in common use for the various kinds of paper produced. Mr. Clark declared that there is obviously a relationship between all papers made and therefore all trade names used. He presented a plan by which this relationship between papers may be established.

C. E. Curran, of the Forest Products Laboratory, Madison, Wis., also gave an interesting talk, taking as his subject, "Use Requirements of Paper".

C. C. Heritage, vice-president of the Technical Association of the Paper Industry, ably described "TAPPI Facilities for Developing Standards". He offered comments on the desirability of paper standards and recommendations for future work.


February 25, 1932
PAPER TRADE JOURNAL, 60TH YEAR
21
DOWNINGTOWN
An unusual arrangement of felts is shown on this machine with the installation of one Downingtown Extractor Roll on the pick-up felt. The felt runs towards the presses instead of in the usual direction. No long top felt is used. The pick-up felt serves as a top felt through the presses with a short first press bottom felt joining the pick-up felt after it passes through the Extractor Roll. The Downingtown Mfg. Co., Downingtown, Penna.
EXTRACTOR ROLL
FIRST PRESS
SUCTION FELT ROLL
VAT
EXTRACTOR ROLL ON PICK-UP FELT
MANCHESTER BOARD & PAPER CO. - RICHMOND, VA

TWO YEARS AGO we published this advertisement and pioneered the idea of combining Extractor Rolls and Suction Rolls on Board Machines. — Our Bulletin 115 outlines the advantages obtained with Extractors and describes some of these combination installations. — Bulletin 114 describes the Suction Roll.

MAIL THIS COUPON TODAY →

CLIP THIS TO YOUR LETTERHEAD

Mail to Downingtown Mfg. Co., Downingtown, Pa.

Mr.....

Would like a copy of Bulletin

☐ 114

☐ 115

Lt.-Col. Warren B. Bullock, manager of the Import Committee of the Paper Industry, discussed "Paper Standards and the Importer", as follows:

"It is the basic province of the Import Committee of the American Paper Industry to cooperate with the Customs Officials in the prevention of misclassification, undervaluation or dumping of foreign paper by making available to those officials the best marketing, technical and legal facilities of the industry.

"The Tariff Act of 1930, under which duties on foreign merchandise are now being collected, provides for approximately 170 different types of paper. When the Customs officials face the question of what duty to apply to an importation of paper, they must have knowledge of the accepted name of such paper, its commercial designation in the trade and commerce of this country.

"The first question that a Customs official must ask in deciding what rate of duty is to be levied, is 'what kind of paper is it?'

"It is readily understood that as to the great bulk of importations, the classification of the paper is comparatively simple. A wrapping paper is dutiable at one rate, a writing at another. But when a Customs official is faced with the determination of a paper which is so close to the border line between two grades that the importer may claim it to be something which it is not, then that official must have some yardstick of classification by which to classify the paper.

"A simple instance would be the determination of the duty classification into which a hard sized paper might fall. The paper in question may be a hard sized book paper, or it may be a writing paper. How is the Customs officer to determine which is the proper classification? Writing paper is dutiable at 3 cents per pound and 15 per cent, book paper at ¼ cent per pound and 10 per cent. It would be a certainty in such a case that the importer would enter his paper as printing paper, and he has the right to do so. If he is wrong ,the Customs officials must know the proper classfiication, and the importer can protest to the United States Customs Court against the ruling of the appraising officer. The court must decide whether the paper was properly classified or not, and there must be evidence taken both for the Government and for the importer to determine whether this hypothetical paper is a book or a writing paper.

"We of the Import Committee whose daily duty it is to cooperate with the Customs officials in the proper determination of such questions believe it would be of the greatest value in the enforcement of existing tariff laws, to have clear, well understood, and commercially recognized definiations of the various best-known grades of paper. We follow the procedure of giving the Customs officials our best opinion, secured from the industry, as to questions, for we feel that our greatest value to the industry is in securing recognition from the Customs officials of our wish to be fair and correct.

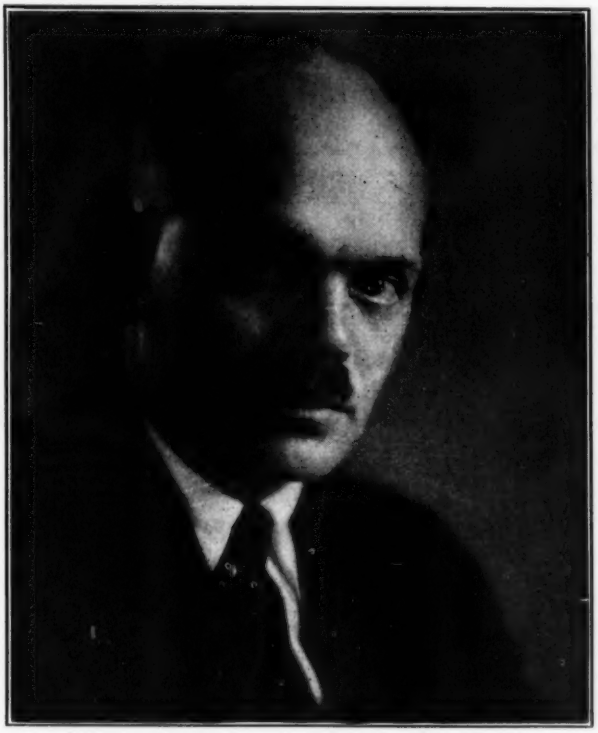
"Our task would be greatly simplified, as would that of the Customs officials, if there were definitions of various grades of paper, so phrased that they could be used by those officials in the analysis of a shipment of any foreign paper.

"There is a definite example of this in the case of the definition of standard newsprint. The definition which is now used as a guide by Customs officials, was prepared by the Treasury Department, and the Customs Courts have held that standard newsprint paper, which is on the free list, is paper which is chiefly used for the publication of newspapers. The definition is used as a guide for determining the classification of a shipment of paper, but because of the court's qualification of standard newsprint as that paper chiefly used by newspapers is a guide only.

If a definition of standard newsprint were promulgated by the paper industry, generally recognized as a commercial description of paper known as standard newsprint, the Customs Courts would be forced to approve the classification of paper conforming to that definition as standard newsprint, and exclude from that classification all other papers.

If throughout the field of paper, the industry should set up such a series of definitions, make them official, the result would be to eliminate many of the questions now being carried to the courts for determination.

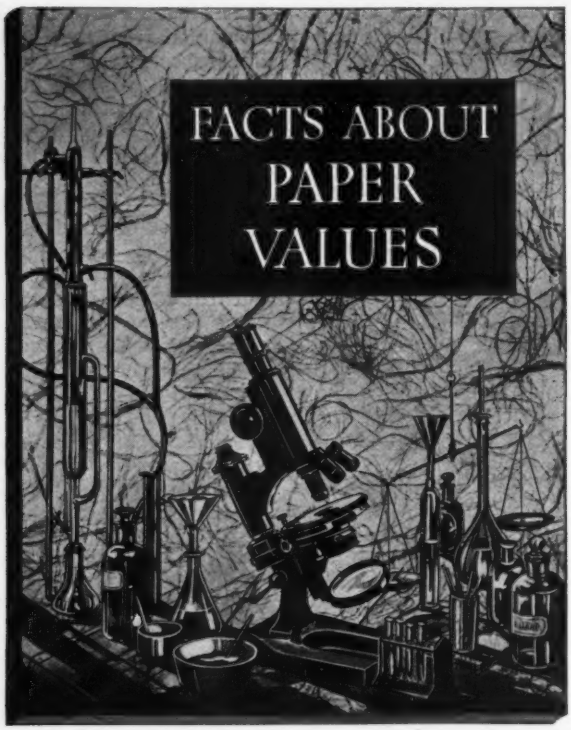
Such a series of definitions would not meet all the requirements of tariff practice, and probably not of commercial practice. However, we feel that the establishment of a series of standard classifications would be of great value, and while the border line papers would always involve a difference of opinion as to classification, many existing evils would be avoided by a further advance toward more specific definition and standardization of paper and the grades within which they fall.



CHARLES W. BOYCE, Executive Secretary

Charles Addoms, treasurer of the National Paper Trade Association of the United States, presented the merchants' viewpoint, and discussed the problems of the distributors and the printers. N. H. Stuart, purchasing agent of Remington Rand, Inc., Buffalo, N. Y., gave the convertors' and consumers' viewpoint.

Ernst Mahler, vice-president of the Kimberley-Clark Corporation, Neenah, Wis., presented the paper manufacturers' viewpoint. He declared that he was concerned about the three evils of the industry — over-production, price-cutting, and upping-the-grades—terming the latter two, "methods of chiseling". Mr. Mahler assured the Technical Association of the Pulp and Paper Industry of the greatest co-operation of the manufacturers in their efforts to promote classification and standards.



HERE is one of the strongest, most practicable sales helps ever prepared for paper salesmen, a book which sets new standards in paper merchandising. In dramatic pictures and short text, it provides salesmen with convincing proof of the greater value and economy of *profitable* papers.

Yet it is but *one* phase of the constructive help and extensive cooperation which is gladly extended to L. L. BROWN distributors.

L. L. BROWN PAPER COMPANY

ESTABLISHED 1849

ADAMS, MASSACHUSETTS

Brown's Linen Ledger. Advance Linen Ledger. Greylock Linen Ledger. Brown's Fine.* Brown's Linen* (wove and laid). Advance Bond.* Greylock Bond.* Resistall Linen Ledger. Resistall Index Bristol. Resistant Index Bristol. Brown's Linen, Advance Bond and Greylock Bond Typewriter Papers. Manuscript Covers. *Envelopes to match.

M. A. Krimmel, of the Hammermill Paper Company, Erie, Pa., a former president of the Technical Association, gave an address on "Current Paper Standardization Projects," during which he summarized the work of the Sulphite Bond Grading Committee.

H. P. Carruth, vice-president of the Mead Corporation, Chillicothe, Ohio, reviewed the work of the Book Paper Association.

H. M. Wriston, president of the Institute of Paper Chemistry, Appleton, Wis., gave an address on "Preparing Paper Standards."

The various papers presented during the meeting were freely discussed by those present.

Paper Machinery Association

S. L. Willson, president of the Paper Industry Authority and president of the American Paper and Pulp Association, and H. C. Beaver, president of the Worthington Pump and Machinery Company and vice-president of the Machinery and Allied Products Institute addressed the luncheon at 12:30 o'clock on Wednesday, February 21, at the Waldorf-Astoria Hotel, held in connection with the annual meeting of the National Association of Manufacturers of Paper and Pulp Machinery and Equipment.

Phillips Dennett, in his address as president of the association, stressed the importance of cooperation among the machinery manufacturers through group associations for the protection of their interests and for the development of the machinery business under the NRA.

The master code of the machinery and allied products industry which was heard at the Public Hearing in Washington on February 9 was discussed in detail at the meeting of the association.

The following officers were reelected at the meeting: Phillips Dennett, president; Charles L. Bauer, vice-president, W. B. Wilshusen, Treasurer.

These officers and the following comprise the board of directors: J. E. Waterhouse, general manager, Montague Machine Company, Turners Falls, Mass.; A. B. Clark, president of the J. O. Ross Engineering Corporation, New York City; S. G. Bevis, president, Bevis Machine Company, Middletown, Ohio.

The address of S. L. Willson at the luncheon follows:—

We are now learning how closely American industry is integrated. The relation between our major industries has heretofore been largely a subject for academic discussion; volumes of economic elucidations amply witness this fact. As an armchair science, integration in its broader aspects failed to appeal to manufacturers. In fact few manufacturers had been brought face to face with the problems of others. The oil producer had his own problems; the steel manufacturer worried independently and for different reasons; and the paper manufacturer was beset with special economic pests of a special virulence. In fact each American industry suffered in isolation.

The progressive decline of business following 1929 finally reached a point where something had to be done. New leaders were demanded; new economic and industrial principles were urgently needed. The leader appeared in Presidnt Roosevelt, and through him the principles of the New Deal were crystalized.

Ten years hence, certainly a generation from now, we will look back in complete amazement upon the so-called heyday of prosperity which ended in 1929. We will have so changed in our industrial viewpoint and in our understanding of governmental, industrial and social relationships, that the helter-skelter, individualistic methods of the 20's will appall us. The fact that under a given set of conditions, those circumstances did give a measure, although temporary, of economic prosperity and social progress will strike us in amazement. For we have forsaken the old order; we have planned a new; we are rebuilding, remodeling our structures. We ourselves are changing.

Each industry has struggled manfully during the past eight months to formulate the principles of the fair deal and to set up machinery whereby these principles may be applied. In the preparation of codes diverse minds met; losing much of their initial antagonism, they now compromise upon the basis of fairness. Never before in history have the viewpoints of management, of labor and of consumption met often enough to develop even the suggestion of harmony. In such an intermingling process, all viewpoints are influenced.

We cannot suppose that the codes which have resulted from these processes, constitute the ultimate outline of industrial procedure. I prefer to think they represent simply the first step, a first step albeit so great that we may require a generation to apply fully the principles and their ramifications that we have set up in our codes.

I do not view this with the least alarm. It conforms with the nature of the world's progress. Periods of complacency are followed by revolutionary, really tremendous first steps, which have required generations even centuries, for complete adjustment—only to be followed by a period of comp'acency. Change coming with the suddenness of thunder cannot be assimilated quickly, for human beings in the mass move slowly, slowly like evolution.

As President of the American Paper and Pulp Association I have had an exceptional opportunity to observe the approach of the pulp and paper industry to the problems that have been raised in the course of the concentrated study necessitated by code formulation. Such enormous problems have been spread before us that, frankly, there are times when I wonder what manner of industry we had less than a year ago. The inconsistencies, the instability, the actual unsoundness of many of our most cherished principles are amazing.

But yet the pulp and paper industry coordinated with its raw material and equipment suppliers and with the merchants and converters of paper, has by no means failed to meet either its obligation or its opportunities. Although hampered by shortages of essential raw materials prior to the development of the new pulping technique, the industry has never failed to supply the paper requirements of the United States, with the exception of newsprint. We have every reason to be proud of our record. Because of this record I am confident that the industry will meet its obligations in the New Deal. The maintenance of our record, however, depends upon the continued development of cooperative industry-management initiated by the Code, and upon sympathetic understanding and cooperation with the supplying industries and with the converting and distributing agencies.

In this connection, it is important to realize that the pulp and paper industry has always been an expanding industry. From 1690 when the first paper was made in America, paper production and consumption has increased in an almost unbroken upward sweep. The industry has been alive to its opportunities; even in depressions some kinds of paper manufacture have increased. The up-sweeping trends have defied percentages; the 3,000 ton consumption in 1810 is insignificant compared with the 13,000,000 ton consumption of 1929.

The chief reason why I have confidence in the pulp and paper industry is the industry's ability to adapt itself to the manufacture of a great variety of products. No one knows, for instance, how many kinds of paper are manufactured today ; no one knows, furthermore, how many kinds were developed to substitute for some other commodity. The use of paper for mechanical purposes, which increased rapidly during the 1920's, has in many respects been in the

Right Down The Line With Menasha!

Right down Menasha's "complete" line of paper products, a

CANS
PAILS
TOILET TISSUE
WAXED PAPERS
NAPKINS
PLATES
PARAFFIN CARTONS

single standard of superior quality is rigidly maintained.

Paper napkins, linen-like in texture, paper plates that rival fine old china in beauty and design; Waxtex, waxed paper that has won the approval of a million housewives as an indispensable household ally; and many other "repeat-sale" paper products make the name Menasha synonymous with three vital merchandising requisites,—quality, beauty and profit.

The Menasha Products Company • Menasha, Wis.

nature of substitution. This is amply illustrated by the substitution of paper shipping containers for wooden crates, boxes and barrels. Substitution has not been so great in the white paper field because the limits of its use are more narrowly limited. Nevertheless, printing and writing papers have themselves entered the mechanical field.

These developments that testify to the record of the past, augur well for the future. They do not, however, constitute measurements of the industry's current condition.

Because of its wide variety of products and their essential character in modern life, the pulp and paper industry possesses the attributes of stability common to the essential industries such as the food and clothing industries. In point of production and consumption it is stable. It should be as stable financially.

Between 1929 and 1932, the low point in the production trend, paper manufacture decreased only 26%, a wholly insignificant decrease compared with the declines in such industries as steel, lumber, cement, automobiles and many others of equal importance. But the industry was unable to profit by its opportunities for stability; the unbalanced relation of production to capacity created a condition that overshadowed all chance for stability with the result that the paper prices sank dangerously below costs. At the beginning of 1933 the paper industry was operating on the verge of insolvency.

Under the influence of the recovery program, the volume of consumption has increased and paper prices have responded. Production was over-stimulated, however, by the fear of more rapidly rising prices and the levels established last summer could not be maintained. During the last three months the industry has again receded to subnormal and wholly uneconomic levels of operation. The industry is not, therefore, in an enviable financial position. It needs time and it needs protection to enable it to recoup the resources required in the maintenance of its personnel and production facilities. To bring it to a rational economic basis and to put it in a position to meet the requirements of the future, the industry has undertaken a broad program of reconstruction. To you as members of an industry that is closely associated with pulp and paper manufacture under its code, I welcome this opportunity to point out some aspects of this program which are particularly interesting.

The story of excess capacity in the industry is a familiar one. No doubt your own records adequately illustrate the relation between excess capacity and the industry's ability to maintain its production facilities in efficient operating condition. This relationship has had a great deal to do with the two recommendations that have been made to the National Recovery Administration by the Paper Industry Authority; the one concerning the control of productive machinery and the other concerning the control of the installation of new machinery not installed to replace worn-out and obsolete equipment.

Briefly these measures are proposed as the only effective means of preventing immediate increase in the idle capacity burden of the industry and for delineating the boundaries of the divisions as a preliminary step in balancing production with consumption.

The purpose of the recommendation in regard to the installation of new machines is to postpone until actually needed the construction of wholly new production units which, despite their economic advantages and their competitive potentialities, must, if operated in conformity with such advantages, reduce the business available for the rest of the industry. Such a reduction means a srrinkage in the industry's ability to purchase supplies and equipment; it means the discharge of workers in the mills unable to compete; and it means a shortening of working time for all employees in the industry. No compensatory increase in employment among the manufacturers of equipment and machinery as a whole seems possible. In fact the construction of one modern mill in a major division at this time is bound to reduce the purchasing power of all other companies, actually causing a decrease in machinery sales to the industry as a whole.

Statistics bear out this statement. For instance, a survey of 230 companies shows that during the period of low prices and low production of the first six months of 1933, expenditures for parts and new equipment for replacement purposes, wholly exclusive of installation costs, amounted to $3,500,000. Expenditures for the same purpose by the identical companies during the last half of 1933 when production and prices were at higher levels, were more than $2,000,000 greater than during the first six months. The same companies report estimated expenditures for the first part of 1934 at more than the total expended in 1933.

Expenditures for replacements and parts are definitely connected with the industry's ability to purchase, and this in turn depends upon the measure of control that the industry can establish over the use of its idle facilities.

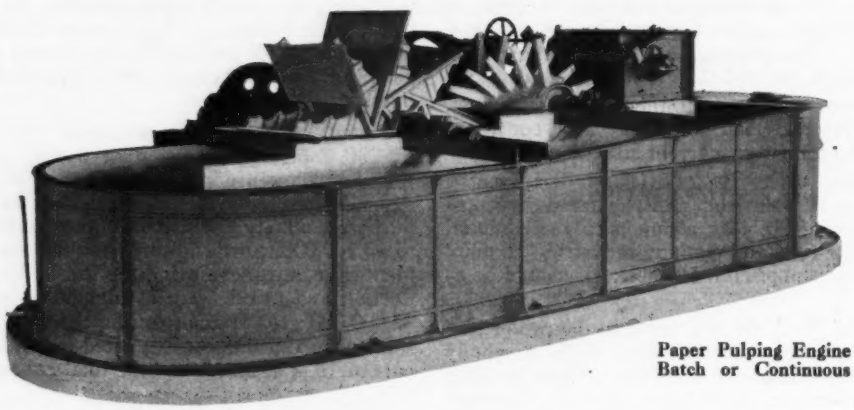
There are few industries in which the opportunity for sale of parts and replacement machines is as great as it is in the paper industry. Of the 683 Fourdrinier machines representing 80 per cent of the total capacity of such machines in the United States industry, reported in the survey which I have already mentioned, 36 per cent were installed prior to 1900 and 81 per cent were installed prior to 1920. In point of age only 19 per cent of the Fourdrinier machines are relatively modern. The number of machines reported in operation at the present time, that were installed before 1900 is surprising. It is at once a tribute to the manner in which these machines were built and an indication of the lack of development in the paper machine. Given a chance to rebuild its financial resources and given a chance to strengthen its market position, the companies that are operating these old machines constitute a tremendous source of business in replacement.

Our statistics indicate that Fourdrinier machines require a certain amount of rebuilding of major nature in approximately 15-year intervals. There is reason to believe that the periodic rebuilding that would otherwise have occurred since 1929 has not been maintained at normal levels. There is, I venture to say, a tremendous lag in the machine rebuilding programs of practically every company, an accumulated demand which can become articulate only if the industry is permitted to reach a point where it can safely undertake replacement and a point at which you can safely accept the industry's credit for payment.

The relationship between the control of machine installation and the business of the industries that construct such machinery has been carefully considered. The pulp and paper industry cannot afford to undertake a program which would tend to destroy the industries upon which it must depend for its machinery. Such action would be not only unfair, but bad judgment. It is important to know that the recommendations in regard to the control of machine installation, specifically exclude machine replacement.

The recommendation in regard to the control of productive machinery also has a direct bearing upon the supplying industries. Although it contains no provisions concerning the installation of new machines, it does provide for their use and allocation following their installation. This is necessary, if we are to have a rational balacing of production and consumption, necessary for the protection of the consumers of paper, as well as the producers.

Careful studies of the relationship between production



Paper Pulping Engine
Batch or Continuous

Now that it's over!

JORDANS
BEATERS
PULPING ENGINES
PROPELLER TYPE AGITATING, CIRCULATING and PRE-HYDRATING SYSTEMS
BEATER BARS AND BED PLATES (All Grades)
JORDAN FILLINGS (featuring patented end grain plug woods and E Z assembled shell fillings)
TISCO PLUGS and SHELL LININGS
JORDAN PLUGS (Bandless and Ring Types)
BEATER ROLLS (featuring the E Z banded roll)
BINDERS AND LEATHERBOARD MACHINES
PRECISION CONSISTENCY REGULATORS

also

The NOBLEWOOD MILL

Now that that elusive "corner" has been definitely turned and we can confidently look forward to prosperity, the paper industry will doubtless have need for the cooperation and services of the paper machinery manufacturers.

We therefore want to assure you of our desire and ability to give you the same capable and reliable service as during the past forty years.

During the depression period that has just passed, we have not been content to just ride along, but have made use of that dull period by improving existing equipment and developing new ideas along more modern lines, consequently we are offering a full line of proven paper making equipment of greatly advanced design.

NOBLE & WOOD MACHINE CO.

Hoosick Falls, N. Y.

and the capacity of the industry to produce, properly adjusted to accomodate the lowering of cost of manufacture through technical development, indicate that when the ratio in operation drops below 80 per cent the price structure and with it the whole industrial structure of the industry is in danger. When consumption is within 20 per cent of the capacity of the industry to produce we have a natural control of production. At this point the production can be sold at prices that represent a fair relationship with cost, and the urge to reduce costs by increasing the volume of production in individual cases is lessened.

After the semi-boom of last summer the paper industry is now at an operating ratio of approximately 65 per cent. It is carrying an excess of idle capacity amounting to 35 per cent of the total, which is 15 per cent below the danger line. In spite of the fact that the code requires that no one shall sell below the cost of the lowest cost to manufacture in a group, there is little chance of maintaining the industry's position if means for integrating production with consumption are not made available. It is obviously impossible for the industry to undertake a production control program if it can fix the limits of the divisions so that the appropriate share of the available business may be equalified among producers.

In the recommendations to which I have referred, the Administrator is specifically designated as the source of ultimate control. The Administrator can release or strengthen the control measures that are set up by the industry in accordance with the conditions of supply and demand. There is little danger, therefore, that this industry could, even if it wished, to delimit its boundaries so closely as to constitute a monopoly.

The industry is itself, furthermore, altogether too flexible, there is too great opportunity for shifting, the possibilities of substitution are too great, for any group of manufacturers, by any means now available, to set up monopolistic conditions.

No manufacturer of paper can be oblivious to the march of technical progress. We have only to remember the expansion in the South and on the Pacific Coast, to find full expression of developmental progress. In these new industries, lie the ultimate opportunities of our national industry, because they have made possible the utilization of new material resources to supplement the none too plentiful supplies in the older producing regions. The industry is not static. By no conceivable means can the industry be made static. But it is imperative that its develpoment be controlled in order that it may avoid the tragic disintegration, the result of the excess capacity disease. Even had the products of your companies been used exclusively in the development of the Canadian newsprint industry, for instance, would you have benefited more if that development had been measured and your sales extended upon a continuous basis of stability dictated by newsprint consumption?

I believe that the answer to these problems centers in the National Recovery Administration. The recovery program, masterly administered by the President has, I believe, accumulated a tremendous power behind business. The trends point upward. The greater retail purchases of December and January are beginning to demand greater production. Yet estimates for 1934 indicate an increased production that will bring the total only back to the 1931 level. With appropriate price increases, I believe that the income from the sale of paper will cover the additional cost of operation under the code and at the same time permit the industry to resume its program of improvement and of expansion.

Salesmen's Association

The Salesmen's Association of the Paper Industry played a prominent part in the paper convention. The proceedings were opened on Monday afternoon, when the executive committee met in the Crane Room of the Waldorf-Astoria. The annual meeting was held on Tuesday morning in the Romany Suite. Harold R. Knott, president of the association, presented his annual report, as follows:

"It is a sincere pleasure to note the change in you fellow members, since a year ago at our annual meeting. The smiles and beaming countenances I see as I look around here are in marked contrast to the scowls and worried looks prevailing the last several years.

"The last year has been one crammed full of activity commencing with the Michigan Bank Moratorium declared while we were in session here a year ago. Events from then on occurred with such rapidity as to leave us gasping for breath at times in our efforts to keep pace with the fast moving tide.

"A tremendous accomplishment has been achieved in our industry through cooperative efforts. It is true the job is not perfect as yet but it is so far ahead of the chaos existing before, that the possibilities of perfection can be realized.

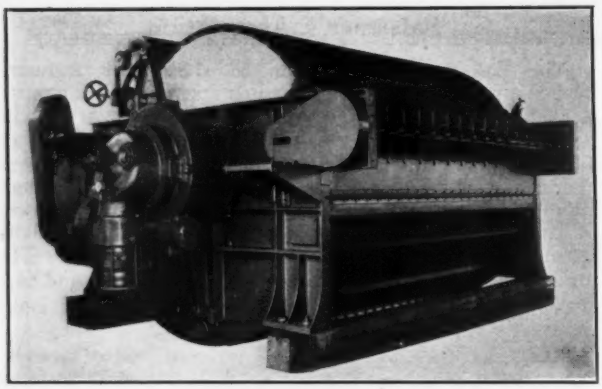
"Codes of fair competition and practices and revised Trade Customs have supplanted the misdirected sales efforts and chiselling allowances of the near past. No code, however, can be devised to eliminate the curse of every industry, the chiselling purchasing agent. He is with us as much today as yesterday. His tactics may change as the chameleon changes his color, but don't be fooled by such a surface change. He is busy right now losing sleep in his endeavor to put an unintended interpretation on some fair trade practice or trade custom. He is looking for the weak sister to prey upon and sell his idea to. He is analyzing grades and trade customs in different divisions to seize upon any variation to his advantage. If ever strength of purpose and certainty of action were needed it is now.

"It is up to each one of you individually to study, analyze, and master the conditions under which a sale can and should be made to conform with the code covering the grade you are selling. Uncertainty in meeting a question relative to a sale is the first encouragement the chiseler is looking for. Be sure of yourself and thereby protect your mill from embarrassment, and what is still more your competitors and the industry as a whole.

"The salesman of today, contrary to the feeling of some executives, is more important than ever to his company. Selling under the NRA is going to give the salesman a chance to sell, not to quote prices and be told his price is out of line, as was the case many times in the not too far distant past.

"If you expect to continue as a salesman with your company under today's conditions, you have got to apply and fortify yourself with fundamentals, and know as do the majority now that the New Deal does not make it any less essential that you exert yourself to the utmost to corral business. Don't let anyone convince you that there is no sentiment in business. To the contrary there *is* sentiment in business, and everything else being equal individualism will lead the way to business price may have kept you out of under the old deal.

"The salesman of the future that knows his product and his customers' requirements from all angles and knows the Code stipulations pertaining to same so that he can present his product intelligently is going to get business, provided he is sincere in his desire and ability to serve both his customers and his mill.



"IMPCO" VACUUM FILTERS

SAVE-ALLS, WASHERS, THICKENERS

"IMPCO" *Cylindrical Beam* all metal mould construction for rigidity—all metal drainage sections for permanently accurate diameter mould—smooth free draining interior for cleanliness of open end moulds.

Free drainage without restriction—hence high capacity.

Water passages accessible—smooth surfaces—stream line flow—proper velocity—no accumulation or sliming.

Smooth spiral wound wire support for filter face—maximum drainage—no undercover.

Positive alignment conical valve for sharper cut-off and maximum filtration cycle.

Integral enclosed drives—anti-friction bearings—low power and maintenance costs.

"IMPCO" positive clearance pulp discharger: Complete sheet removal without abrasion or mechanical wear on face—simplicity facilitates washups.

For over a quarter of a century we have been furnishing to the paper industry all-metal vacuum machines of various types. The logical outcome of twenty-five years of experience and engineering development is the modern all-metal "IMPCO" Filter including the stream-line metallic water channels which are furnished as standard equipment. These channels, which have proven themselves in operation, are available in various sizes and metals, as well as hardened plastics, to meet a wide range of flows and corrosive liquors. These channels, in connection with our wire-wound facing support, provide for maximum drainage, efficiency, cleanliness, and life.

"IMPCO" LOW TYPE FLAT SCREENS WITH DUNBAR DRIVE

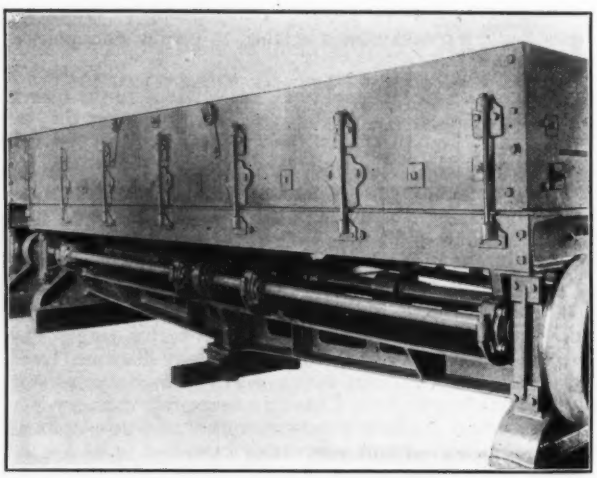
INCREASED CAPACITY

With

LESS POWER

The "IMPCO" Screen is equipped with compact Dunbar vibrationless eccentric drive which produces a positive uniform stroke free from pounding, noise, or excessive wear. Finer cut plates can be used without loss of production. Tests show saving of 50-70% in power. The outstanding merit of these screens warrants careful investigation.

We solicit inquiries for modernizing old type screens by applying the Dunbar Drive.



IMPROVED PAPER MACHINERY CORP.

NASHUA, NEW HAMPSHIRE

Vacuum Filters
Vacuum Washers
High Density Thickeners
Pneumatic Savealls
Pneumatic Washers
Pneumatic Thickeners
Pneumatic Water Filters

Multiple Stage Washers
Deckers
Knotters (Knot Screens)
"Impco" Centrifugal Screens
R-S Centrifugal Screens
Rotary Tailing Screens
Flat Screens—Dunbar Drive

Cylinder Machines
Wet Machines
Waxers (Flather)
Forming Machines
Positive Pressure Blowers
Spirally Wound Felt Couch Rolls

Cylinder Moulds
Iron and Wood Press Rolls
Filter Wires (Faces)
Perforated Screen Plates
Cylinder Covers (Faces)
Experimental Beaters
Special Machinery

"You must have confidence in the ability and intentions of the Code authorities to properly classify and control grade differences. Don't be misled by the claim of a customer that he can buy a better grade at the next lower grade price. Get full samples and information in such instances and report fully to your executive who will investigate through the proper source. This is one of the pet tricks of the chiseler and must be broken down.

"We have all heard more or less talk on the matter of policing of the industry. It is my feeling that the salesmen of the paper industry are too intelligent to harbor the idea that any overt act of any one of them will long escape the attention of another.

"While it is true we are all working for the immediate benefit of our own companies, still, nevertheless, we cannot help but realize our own companies are not empires unto themselves, but are part and parcel of the whole industry. As such, is it not axiomatic that only as the industry prospers will the individual companies prosper.

"The question of policing may become a simple matter or a very much involved matter in any industry, but with the set up of the Salesmen's Association of the Paper Industry now in its sixteenth year of operation, reaching into every division of the industry and covering the United States, the problem becomes more one of enforcement through education and application than policing. The man in the field, or in other words the salesman, is the man who is usually first to hear of any violations, and therefore any further investigation or action should logically start with him.

"The salesmen of our industry are charged with a very serious duty. Upon them more than any other group of individuals depends to a large extent how smoothly future operations under the code proceed.

"There is no place in the payment set-up for the Calamity Jane and pessimist. Go about your selling with dignity, radiating optimism and cheerfulness, and watch the catching effects on those you talk with.

"Your association has been of inestimable value to you this last year if you allowed it to be and exposed yourself to the benefits possible by reading the bulletins and attending the meetings. A continuation with increasing benefits is the prospect of the future.

"The second annual golf tournament held last October in conjunction with the fall meetings of the National Paper Trade Association was a tremendous success and bids fair to be the outstanding social feature of the future fall meetings. This is sponsored by your association for the benefit, of mill executives, convertors and merchants and is providing a common meeting ground that is destined to knit all units of the industry closer together, for a clearer understanding of mutual problems.

"As mentioned in my report a year ago, we were instrumental in forming the Paper Foundation, a corporation not for profit, to assure proper representation of the Paper Industry at A Century of Progress, World's Fair held in Chicago last year. Due to your support in this endeavor, it is gratifying to note statistics relative to the venture now that the original fair is over.

The total attendance at the Fair was slightly over 22,000,000 paid admittances. The Paper Foundation Exhibit had an attendance of 1,120,000 people of which number 119,186 people signed the register roll petitioning Congress for two-cent postage. The Century of Progress administration advised us officially that our exhibit rated seventh in importance with regard to all exhibits in the grounds and that we rated first as to popularity of exhibits, disregarding of course paid amusement exhibits. We must acknowledge the support and untiring efforts of the other associations and their representatives in the cooperative exhibit, namely, The American Pulp and Paper Association, The National Paper Trade Association, The Technical Association, The Superintendents' Association, and the Chicago Paper Trade Association, and the leadership and management of P. A. Howard of the Howard Publishing Company. The success measured by attendance and benefit to the industry vindicates our sponsorship of same and probably rates next to the Import Committee in importance of accomplishments of our Association for the benefit of the Industry.

"After six years as an officer of this Association, as I turn over the reins to your newly elected president it is with the feeling unquestionably prevalent in the parent who is losing a son or daughter in marriage, after thinking and directing their every activity of life up to that time.

"It is gratifying, however, to note that while the past few years have greatly reduced our membership in numbers, the activities of the association have increased in number and usefulness to the industry. Also from a very serious deficit in our treasury three years ago we now have a nice cash surplus available with which to face the future.

"The cooperation of the other officers and Executive and Advisory members has been of inestimable value and acknowledged with the deepest appreciation.

"The activities of our Association are more dependent on those of the individual members than probably any other association, and it would be gross abuse to pass on without thanking the individual members for their wholehearted support, which I do at this time.

"We also owe a debt of gratitude to the trade press for their unfailing support of our every activity, which debt is hereby acknowledged.

"I wish to bespeak for my successor the same measure of assistance, cooperation, and helpfulness as it has been my good furtune to receive from all during my term in office."

W. L. Raymond, vice-president of the Eastern Division, gave an account of the work of his division during the past year and commented on the excellent attendances at the various meetings. Creighton W. Whiting, vice-president of the Middle West Division, made his report and testified to the enthusiasm and support of the members in that section.

Officers for the ensuing term were elected, as follows:
President, W. L. Raymond, P. H. Glatfelter Company.
Vice-president, Eastern Division, Melvin P. Pray, Brown Company.

Vice-president, Middle West Division, R. C. Johnson, Northwest Paper Company.

Secretary-Treasurer, James R. Carter, 2nd., 122 East 42nd Street, New York.

Paper Salesmen's Luncheon

Approximately 600 members and guests attended the annual luncheon of the Salesmen's Association of the Paper Industry on the Roof Garden of the Waldorf-Astoria on Tuesday afternoon. Harold R. Knott, retiring president of the association, was an efficient and ready-witted chairman.

Mr. Knott introduced Sidney L. Willson, president of the American Paper and Pulp Association, who spoke as follows:

"I am glad to be here today for I have a pleasant duty to perform. I want to report that the Board of Governors of the American Paper and Pulp Association has elected the Salesmen's Association of the Paper Industry to affiliate membership in the American Paper and Pulp Association, in accordance with the Association's Constitution. In behalf of the Board of Governors and the Executive Com-

STORA QUALITY 32

HIGHEST

TEAR—FOLD—BURSTING—WHITENESS

This page is addressed to those leaders of the paper industry who share with today's details thoughts of tomorrow's problems.

To you Stora offers a new yet proven fibre—a product of its cellulose research laboratories.

Stora Quality 32 is a new type of bleached pulp. It possesses outstanding strength for tear, fold, tensile, and Mullen. The character of these fibres make it suited for lasting durable papers. Uniformity, cleanliness and a superior whiteness of color are other features of Stora Quality 32.

Do these qualities suggest a possible employment of Quality 32 in your papers? Do they indicate Quality 32 will enable you to make certain of your grades better by using these strong durable fibres?

And now for that new special paper you have been wanting to make when such fibres were available.

Fine papers, of Stora Quality 32 content, including bonds, ledgers, writing, cover, book, coated stock, tissues, envelope and specialties for the converting trade, are being made by many outstanding paper manufacturers.

Be sure to investigate Stora Quality 32.

SALES AGENTS

STORA KOPPARBERG CORP.

230 Park Avenue New York

mittee, I extend to you a hearty welcome, with the hope and belief that our mutual interests will be enhanced.

"In the reorganization of the industry's cooperative agencies, which was necessitated by the circumstances of the Code Administration, the divisional organizations of the industry are now bound together more closely than ever before. In three separate code jurisdictions for the entire paper industry of which the General Code, with its twenty-four divisions in one, means are provided for every manufacturer of pulp, paper and paperboard in the United States not only to join in the recovery program, but also to contribute his share to the welfare of our industry. The twenty-four divisions under the General Code, comprising the membership of the American Paper and Pulp Association deal primarily with manufacturing and marketing policies.

"The three service organizations of the industry, the Salesmen's Association of the Paper Industry, the Technical Association of the Paper and Pulp Industry, and the American Pulp and Paper Mill Superintendents' Association, have upon vote of the Board of Governors been elected affiliate members. Thus in the one central body all our organizations are represented and through that body the activities of all may be focused in a closely integrated, thoroughly harmonized attack upon the complex problems of pulp and paper manufacture and distribution. The service organizations each in its way meet distinct purposes and assumes important obligations in their relation to the whole.

"The maintenance of the Code, in fact, the maintenance of the industry's welfare depends in an important measure upon the soundness of our sales policies. But policies are useless if they cannot be applied. It is in this application that the Salesmen's Association finds its greatest opportunity under present conditions.

"No branch of the industry can do more to make the Code effective than the Salesmen's Association if the members thoroughly acquaint themselves with all the provisions of the Code and will embrace every opportunity to secure adherence to it by those to whom you sell. Temptation to be selfish is still in evidence—but as there are two types of selfishness—I ask you to try to eliminate that type which is purely personal and develop that other type which is industrial and from which the greater ultimate benefits always accrue. At the few meetings of your regional associations which I have attended, I have been pleased with the frankness shown in exchanges of useful information—both good and bad—and as President of the American Paper and Pulp Association, I am asking for your cooperation in developing the benefit to be derived from the proper application of the provisions of the General Code and of any Trade Customs and Trade Practices that shall be later approved by the Administrator.

"Far-reaching changes are under way, changes that culminate in and hinge upon the selling effort. How a Salesman either collectively or individually plans his efforts in harmony with the new order, determines in a large measure the industry's status. The responsibilities are enormous. The opportunities tower high in prospect.

"The development essential to earned merit in the performance of your duties in the new order demands organization work of a most intensive nature. I believe that you understand this, and I sincerely hope that your participation in the industry's organized efforts may not only prove worthwhile to your own associates, but also bring to the work of all organizations with which you are affiliated, the much-needed, practical viewpoint of the men who in selling paper are in constant contact with paper users. The American Paper and Pulp Association stands ready to give your Association every aid within its power, and I again express my pleasure in having your Association affiliated with us."

George H. Mead, of the Mead Corporation, president of the Book Paper Manufacturer's Association, and one of the most prominent leaders of the paper industry, was the next speaker. He took as his subject "The Effect of the National Recovery Act on Merchandising Problems of the Paper Industry". Mr. Mead said in part:

"The New Deal has completely upset the conceptions one has had for many years: however, over the year business has developed into the greatest industrial situation the world has ever known. The NRA in its conception and development has merely attempted to establish new rules by which we can develop the industry of the country in order that we may have a saner and sounder nation. It is doing one of the most effective jobs ever undertaken in the United States.

"Granted that the necessity for the highest type of salesmanship is necessary under the NRA, I wonder if you men realize the responsibility you have. No matter how much you may have thought you have given, you have not given half enough. This country is on the threshold of real, sound prosperity. We cannot deny that we have passed through the depression and won the battle during the past year. It would be a crime to allow the opportunity to pass to maintain prices and markets."

Deputy Administrator Pickard was introduced by the chairman and received an enthusiastic reception. He spoke briefly, declaring that by rights he ought to be a member of the salesman's organization as he is helping to sell the NRA. During the past year, he said, he had been working with the greatest salesman in the United States today, viz., General Hugh S. Johnson, head of the NRA. Mr. Pickard stated that the problem of selling NRA to the paper industry had been easy.

James E. Gheen, a business man with a sense of humor also spoke. The keynote of his talk was the theme of cooperation. His remarks were very timely and effective and his discourse was thoroughly enjoyed and appreciated by all present.

National Paper Trade Association

At the annual meeting of the National Paper Trade Association on Wednesday, February 21, at the Waldorf-Astoria Hotel, the following officers were elected:

President, A. W. Leslie, John Leslie Paper Company, Minneapolis, Minn.; vice-president in Charge of Wrapping Division, H. L. Zellerbach, Zellerbach Paper Company, San Francisco, Cal.; vice-president in Charge of Fine Paper Division, O. F. Marquardt, Marquardt & Co., 155 Spring street, New York; treasurer, Charles Addoms, Miller & Wright Paper Company, New York; executive secretary, A. H. Chamberlain, 420 Lexington avenue, New York; assistant secretary, C. A. Spaulding, 660 32nd street, Des Moines, Ia.

Sidney L. Wellhouse, president of the Association, delivered his annual address as follows:

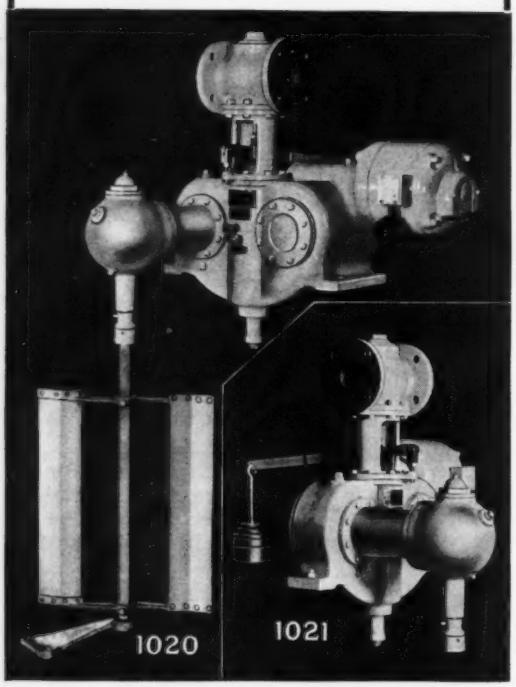
Gentlemen, I trust you will accept my few remarks just as remarks, as I am not much on making addresses. But the thought occurs to me that when we assembled here a year ago, it was with brave faces and very fearful hearts. However, we had the background of a long series of years of constructive work in this Association, and therefore we tackled the knotty problems that were presented to us at that Convention, and the membership cooperated with determination to vigorously attack the very desperate situation that was then existent.

During the course of that convention we listened to an address that was given to us by Ben Javits, and we were

ATTENTION — INFORMATION — ACTION

These are three steps in a program that will benefit you more than it will us, because the benefit to you is continuous and permanent, adding to your income year after year. To us it is a matter of a single transaction and a single profit,—modest at that.

MEYERS-MESCO
CONSISTENCY
REGULATOR



ATTENTION

This advertisement is the first step in the process and announces the fact that a MEYERS-MESCO CONSISTENCY REGULATOR is an automatic control for pulp and paper stock that is now operating in many of the best mills in the country and is instrumental in turning out a uniform product, at the same time saving something in cost of production. Once your ATTENTION is attracted, you will want

INFORMATION

That is contained in Bulletins explaining the construction and operation of this valuable control and personal correspondence will supplement this and enlighten you on the savings obtained in actual practice. It will also cite outstanding installations that will interest and perhaps surprise you. Once you have this information you will be ready for the next step because when it comes to a MEYERS-MESCO CONSISTENCY REGULATOR, knowledge of its performance inevitably leads to

ACTION

That merely signifies that our engineer in charge of consistency regulation who is not only a technical expert but a salesman as well, will make a personal visit to your plant, learn your stock consistency problems, advise with you and arrange for an installation that amounts to a sale in terms of actual demonstration.

Then the program is complete, your plant is one lap nearer complete efficiency, and we are content to add to our list one more satisfied customer. It is up to you to take the first step. Simply let us know that your ATTENTION has been aroused and we will meet you half way by taking the second step. As we say in our advertisement, MEYERS-MESCO REGULATORS DO REGULATE.

MERRITT ENGINEERING & SALES CO., INC.

LOCKPORT, N. Y.

VISCOSITY REGULATION—STANLEY SPEED VARIATORS—PROGRESSIVE HOT PLATE DRIERS—COATING AND LAMINATING EQUIPMENT

highly interested in all that he had to say, but we were exceedingly skeptical in regard to it, and the discussion that followed that address and the questions that were asked by our members and the speaker's replies to those questions appear to me to be of very unusual interest when we review the happenings of what followed a very few months after that.

If we recall the many statements that have been made on the floor of this convention from year to year, it has been stated here time and time again that the individual unit of industry was forcing the major number of the units of the industry to do a great many things that were contrary to their wishes, contrary to their dictates, and often this one unit was just a ruthless individual one, and despite the efforts of organization and despite the persuasive powers of individual groups and geographical units, very little could be done to correct the evils existing from that condition.

During the early summer months of last year, we were advised of a proposed new legislation, and your Association then entered into the matter of Code activity, starting the work of making a Code or writing a Code.

There were no precedents to go by, there were no examples, there were very few rules and very few regulations. It was all simply an adventure, and as I recall the first meeting of your officers, relative to this activity to discuss the method of procedure, I sometimes wonder how we ever got away from the starting post.

I won't go into all the details as to what happened and how many changes took place and how many times the original draft had to be rewritten. You have been kept advised of practically all of this, by bulletins from your associations, but I do want to state and to emphasize the fact again that this is all an experiment. We are gambling with it, and therefore we must enter into it with courage, with confidence and with enthusiasm, if we intend to make it a go—and we do intend to make it a go.

Please also remember, relative to Code activity, that we were among the very first, if not the first (outside of the manufacturing industry) to tackle this job, and we had to blaze a way through a forest on almost every article of the Code. We presented many new problems to the different Boards at Washington, and to the Administration itself, but we have a Code. It was approved by the President, and became effective as of January 1. But it is one thing to get a Code, and it is a different matter to get cooperation in complying with the provisions of a Code.

In talking last night to a small group of members, I referred to a letter that came to me in a series of round table letters that the Code Authority members have been writing to each other, and I referred to a particular clause that was in the letter of one of the members. I am going to repeat it, for the benefit of those who were not there last night.

In writing to other members, this member of the Code Authority wrote: That "anybody who thinks this is going to be a sleigh ride, with the bells jingling all the way, is just full of banana oil." I think that expresses the situation very clearly.

The matter of organization under the Code, for administrative purposes, has been tackled by your Code Authority at its initial meeting on January 5th, and at its second meeting last week, and work is proceeding along that line just as fast as possible. There is no question but what there are many unethical practices still going on in the trade and you must not expect to correct all of these until the Code is in full operation and the many jurisdictional problems settled and many more interpretations are definitely made.

It should be remembered that there are many instances where individual viewpoints must be sacrificed in order to obtain equitable solution along broad lines. It has been and will be impossible to reconcile the views of everyone, but you must remember one fact, and that is, that your Code is not the result of an imaginative mind, but it is based and built upon facts and figures based on accurate information.

Those of us who have been active in this work, fully realize the criticisms and the complaints that have been made by many, and I, for one, am frank to state that I found most of them originated from individuals who had not properly studied the problem and who had not given of their time and effort, and therefore, those critcisms were not really worthy of consideration.

Please don't mistake what I have just said, with those highly-constructive criticisms which were made by many men and which the Code Committee and those who were assisting the Code Committe invited and were indeed happy to obtain. From them we obtained much valuable information and assistance.

Even though I repeat myself, I must again express my very deep appreciation to the other officers and to our secretarial staff and our counsel and the many members of the trade at large, who contributed so much and gave so freely of their time and labor in the support of the Code activity.

Our work relative to the Code is not finished; it has just begun, and the administration of the Code is going to take the cooperative effort of every member of this association and every appointee of every committee under the Code Authority.

I appreciate deeply, the confidence that you have displayed in me, and the loyalty with which you have supported me, and although the work has been strenuous at times, I have enjoyed the three years of responsibility and service as an officer, and I hope, and know, that my successor will have the same generous support and cooperation. I pledge to your association, my heartiest cooperation and my support in all of its activities. Thank you!

Technical Association Luncheon

The nineteenth annual luncheon of TAPPI held in the Grand Ball Room of the Waldorf-Astoria Hotel on Thursday noon, February 22, was the largest attended of any yet held by the Technical Association. Further, it was the first time when an annual luncheon was graced by leading men of the industry and official representatives of the Federal government, in the persons of S. L. Willson, president of the American Writing Paper Company, Inc., and also president of the American Paper and Pulp Association, and W. W. Pickard, deputy administrator of the Paper Division of the NRA. The presence of such individuals emphasized the great importance of the paper industry to the businesses and human life of the world and the prominent part the technical man is playing in turning out the products of the industry. The first speaker introduced was "Oscar," the maitre de Hotel of the Waldorf who delivered the valedictory at the closing of the old Waldorf and prophesied then, if he lived, he would have the pleasure of greeting the members of the paper industry again at a new Waldorf and his prophecy came true at this meeting.

President Abrams then called for a vote of thanks to Dr. Herty for his contribution to the industry and his devotion to the association and its endeavors. NRA Deputy Administrator Pickard discussed the new codes as applied to the various branches of the industry.

The Portland, Oregon, annual convention of TAPPI, to be held next September, should be a well attended affair judging by the interest and enthusiasm expressed at the luncheon by those present after hearing descriptive talks on the part of Coast technical men.

SULPHITE PULPS

AND

KRAFT PULPS

of Every Description and
Suitable for All Requirements

Selling Agents in U. S. A. for the Following Pulp Mills:

Kraft Mills

HUSUM
KORSNAES
MUNKSUND
OSTRAND

Sulphite Mills

DOMSJO (MDM, MDL, D, DM)
HORNEFORS (MDM—HS, DH, DMH)
KORSNAES (Selected and L Quality Mitscherlich)
ROBERTSFORS (RI, R, RM)
STORVIK (HS, Extra Strong Mitscherlich)

Bleached Sulphite Mills

MO & DOMSJO WHITEHORSE
MOUNT TOM SULPHITE PULP CO.

Strong and Bleaching Sulphate Pulps

for Specialty Mills

KORSNAES (Strong and Bleaching)

Pagel, Horton & Co., Inc.

347 MADISON AVENUE, NEW YORK CITY

Mill Supply Dealers' Banquet

There was an excellent attendance at the Twenty-sixth Annual Banquet of the New York Association of Dealers in Paper Mills Supplies, Inc., which was held at the Hotel Commodore, New York, on Wednesday evening. In addition to a superb dinner there was a varied and diversified entertainment, which was thoroughly enjoyed by all present.

Tables were reserved by the American Paper Mill Supplies Institute; the Atlantic Waste Paper Company; the Baltimore Association; Thomas Barrett & Co.; D. Benedetto, Inc.; A. Bloch & Co.; the Boston Association; C. F. Bradley; P. Cardinale & Son; the Crosby Paper Stock Company; the Economy Baler Company; S. J. Fisher, Inc.; Gaccione Bros. & Co.; the Giove Company, Inc.; H. Goldman & Co.; Louis Gottlieb; Hicks, Costarino & Co., Inc.; Daniel M. Hicks, Inc.; E. J. Keller & Co.; Joe Levy & Son; Charles A. Mastronardi; George W. Millar & Co., Inc.; A. J. Moran & Co., Inc.; the National Association of Waste Material Dealers, Inc.; Martin Patricof; the Philadelphia Association; H. Rosenberg; S. Schapiro & Sons; W. Steck & Co.; the Sterling Mill Supply Company; the Valva Paper Stock Company and the Wilson Paper Stock Company.

During the evening Walter H. Martens, chairman of the Banquet Committee, on behalf of the association, presented to former President Andy Costarino a solid gold wrist watch as a token of esteem and appreciation for the services he had rendered the organization during his term of office.

Sulphite Paper Manufacturers Association

At the annual meeting of the Sulphite Paper Manufacturers Association held on Monday, February 20, at the Waldorf-Astoria, the following officers were elected:

General-chairman, Paul S. Fiske, Parker-Young Company; vice-chairman of the Bleached Group, Thomas A. Hendry, Fraser Companies, Inc., New York; vice-chairman of the Unbleached Group, George Stuhr, Continental Paper and Bag Corporation; vice-chairman of the Manila Group, Walter B. Merlin, Hollingsworth & Whitney Company; vice-chairman of the M. G. Sulphite Group, E. W. Kiefer, Port Huron Sulphite and Paper Company. Thomas J. Burke, 122 East 42nd street, New York, is secretary-treasurer.

The Executive Committee consists of Paul S. Fiske, Thomas A. Hendry, Walter B. Merlin, E. W. Kiefer, R. A. Macdonald, Crown Willamette Paper Company, San Francisco, Cal.; W. L. Edmons, Wausau Paper Mills, Brokaw, Wis.; Rugus L. Sisson, Jr., Racquette River Paper Company, Potsdam, N. Y., and Julius L. Stille, St. Regis Paper Company, New York.

At the various meetings held throughout the week important discussions were held on trade customs, price data, allocation of grades and the question of a budget.

Waxed Paper Association

At the annual meeting of the American Waxed Paper Association, held during the week, W. J. Eisner, of the Newark Paraffine and Parchment Paper Company, was re-elected chairman. V. E. Nunez, of the Nashua Gummed and Coated Paper Company; and Leo Croy, of the Menasha Products Company, were re-elected vice-presidents. The executive committee comprises the above officers and Walker Hamilton, of the Riegel Paper Corporation; L. O. Turner, of the Detroit Wax Paper Company; V. H. Wilshire, of the Specialty Paper Company; Homer Sinclair, of the American Tissue Mills; R. B. Donnelly, of the Central Waxed Paper Company; Leslie Jacobs, of the Pollack Paper and Box Company; H. O. Nichols, of the Western Waxed Paper Company. H. G. Crockett, of Scovell, Wellington & Co., is the secretary-manager.

Newsprint Manufacturers Association

At the annual meeting of the Association of Newsprint Manufacturers of the United States held Wednesday, February 21, at the Waldorf-Astoria Hotel, the following officers were elected:

Chairman, Edgar Pickard, Pejepscot Paper Company, Brunswick, Me.; vice-chairman, A. H. Hobson, St. Croix Paper Company and C. K. Blandin, Blandin Paper Company.

The Advisory Committee consists of the above officers and William A. Whitcomb, Great Northern Paper Company; I. Zellerbach, Crown-Zellerbach Paper Company. R. H. M. Robinson, Minnesota and Ontario Paper Company and A. R. Graustein, International Paper Company.

R. S. Kellogg, 122 East 42nd Street, New York, is secretary-terasurer of the association.

Writing Paper Manufacturers

Harrison R. Baldwin, of the Hammermill Paper Company, was re-elected president of the Writing Paper Manufacturers Association. Vice-President J. L. Bagg, of the Millers Falls Paper Company, was also re-elected. F. Henry Savage, of the International Paper Company, was elected vice-president. The members of the executive committee and executive authority are, in addition to the above officers, H. H. Howard, of the Aetna Paper Company; H. A. Moses, of the Strathmore Paper Company; W. S. McLennan, of the P. H. Glatfelter Company; W. C. Wing, of the Fox River Paper Company; D. K. Brown, of the Neenah Paper Company; W. M. Crane, Jr., of Crane & Co., Inc.; and Donald Weston, of the Byron Weston Paper Company. E. H. Naylor is the secretary-treasurer and M. C. Dobrow the assistant secretary.

Cellulose Wadding Manufacturers

The meeting of the Cellulose Wadding Manufacturers Association was held at the Waldorf-Astoria Hotel, on Monday, February 19. The discussion at this meeting was largely concerned with the relationship of the association and the Sanitary Napkin and Cleansing Tissue Association. The question of Trade Customs was also discussed and the following officers elected: President, Charles H. Sage, Kimberly-Clark Corp.; vice-president, Joseph Englander, National Cellulose Corporation; secretary-treasurer, Robert E. Canfield.

The members of the Executive Committee include Charles H. Sage; Joseph Englander; W. M. Hurlbut, International Paper Company; L. V. Young, Pond's Extract Company; F. A. Stone, Union Mills, Inc.

Tissue Manufacturers Association

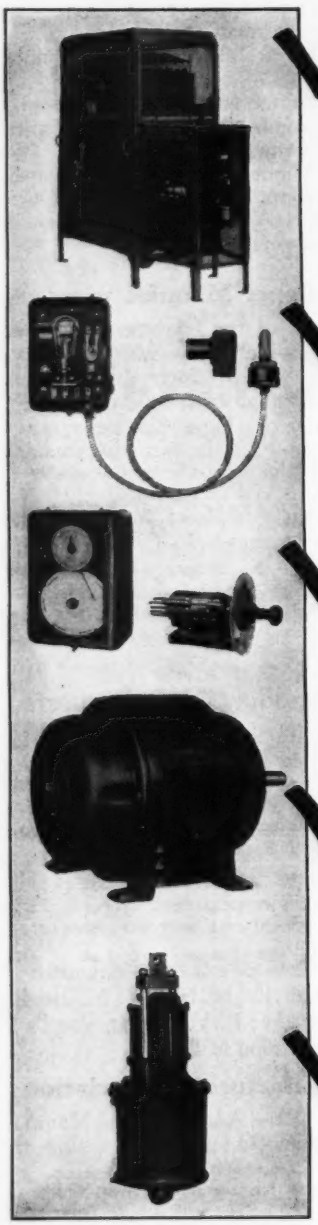
The various groups of the Association of Manufacturers and Converters of Tissue held important meetings throughout the entire week of the convention.

At the meeting of the Jumbo-Roll group trade customs for this division were discussed and A. A. Burrows of the Burrows Paper Company, Little Falls, N. Y., was elected chairman.

Among some of the other group meetings were those of the Wrapping Tissue Group at which Z. W. Ranck, of the Crystal Tissue Company, Middletown, Ohio, was elected chairman, and the Paper Towel Group, of which J. M. Conway, Hoberg Paper and Fibre Company, Green Bay, Wis., was elected chairman.

Check

these G-E money-saving equipments



CAPACITORS—If you have a power-factor penalty clause in your power contract, or if operating conditions result in excessive voltage drop on the motor feeders, check the power-factor. If it's low, you can improve it simply and easily by installing a G-E Capacitor. One manufacturer installed a 480-kv-a. capacitor at a cost of $6,318, and the savings on power costs alone paid for it in less than one year.

PHOTOELECTRIC RELAYS—Electric eyes—will solve dozens of your perplexing problems. For example, they may be used to detect breaks of the paper on paper machines; to count boxes, bags, or sheets; to sort objects according to size, color, or shape; to compare or analyze color; or to control the registry of cutting, printing, or wrapping machines.

SELSYN DEVICES—Small, compact, easily installed devices which will tell you at a glance the level in tanks, reservoirs, or sumps situated at remote points. The modern electric paper-machine drive has Selsyn control throughout, while the mechanical drives may be equipped with Selsyns to make "draw" changes from the front side of the machine.

SPLASH-PROOF MOTORS—Designed especially for tough spots — places where open motors cannot be used because of splashing or dripping liquids. The frame and end-shield openings are protected by covers, and a splash-proof conduit box protects the power connections so that liquids cannot splash or drip directly into the windings. Cartridge-type ball-bearing housings make it unnecessary to expose the bearings even when disassembling the motor, and assure long bearing life and low maintenance.

THRUSTORS—Self-contained motor-driven devices that exert a smooth, powerful, straight-line, cushioned thrust. Thrustors are applicable wherever you now use hand- or foot-operated pedals, levers, hydraulic cylinders, or solenoids. They are used to operate paper cutters, and valves controlling white or black liquors, water, steam, oil, or stock. They are available in a large number of sizes. The largest will deliver a thrust of 6400 lb. through a stroke of 64 inches.

If you would like additional information on any of these G-E money-saving equipments, address the nearest G-E office, or General Electric Company, Schenectady, N. Y.

011-3

GENERAL ELECTRIC

Gummed Industries Association

At the annual meeting of the Gummed Industries Association, held at the Waldorf-Astoria Hotel, it was announced that the code for the gummed paper industries had been signed and was effective February 26.

The following officers, who comprise the Executive Committee, were elected: President, Irving McHenry, Mid-States Gummed Paper Company; vice-presidents, V. E. Nunez, Nashua Gummed and Coated Paper Company; E. Perlman, Union Gummed Products Company; R. A. Maish, Dennison Manufacturing Co.; P. H. Bridge, Brown-Bridge Mills, Inc.; E. A. Herrlinger, Gummed Products Company; W. K. Gerbrick, Central Paper Company, Menasha, Wis.

Douglas A. Crocker, 122 East 42nd Street, New York, is secretary-treasurer.

Waterproof Paper Manufacturers Association

At the annual meeting of the Waterproof Paper Manufacturers Association on February 19 at the Waldorf-Astoria Hotel, the following officers were elected for the ensuing year:

President, Fred P. Wood, Simplex Paper Corporation, Adrian, Mich.; vice-president, F. E. Rothermel, Crepe-Kraft Company, Newark, N. J. D. A. Crocker is executive secretary of the association.

The members of the Executive Committee are: Fred P. Wood; F. E. Rothermel; E. H. Angier, Angier Corporation, Framingham, Mass.; W. W. Rowe, Paper Service Company, Lockland, Cincinnati, Ohio; J. D. Young, Edgewater Paper Company, Menasha, Wis.

Ground Wood Paper Association

The meetings of the Ground Wood Paper Association held during the week were well attended. All the officers of the association were re-elected, as follows: President, C. R. McMillan, of the St. Regis Paper Company; vice-president of the Eastern Group, K. S. McLachlan, of Fraser Paper, Ltd.; vice-president of the Western Group, L. L. Alsted, Combined Locks Paper Company; Board of Governors: the above officers and W. N. Hurlbut, International Paper Company; J. D. Zellerbach, Crown-Willamette Paper Company; S. R. Davis, Dells Paper and Pulp Company; George W. Mead, Consolidated Water Power and Paper Company, and C. H. Phipps, Wetab Paper Company.

Cardboard Manufacturers Association

The Cardboard Manufacturers Association at its general meeting in the Waldorf-Astoia on Wednesday re-elected all its officers, as follows: President, H. W. Kramer, A. M. Collins Manufacturing Company; vice-president, J. A. Moser, Falulah Paper Company; treasurer, H. W. Sutter, Champion Coated Paper Company; secretary, Kendall Wyman, Champion Coated Paper Company; executive committee, H. W. Kramer, J. A. Moser and K. W. Schneider, American Coating Mills. James R. Carter, 2nd, of the American Paper and Pulp Association, is acting as secretary for code provisions concerning the organization.

U. S. Pulp Producers Association

At the meeting of the United States Pulp Producers Association, held at the Waldorf-Astoria Hotel February 19, revised Articles of Organization were approved and adopted and a board of fifteen directors was chosen.

According to the Articles of Organization, this board will elect the officers and executive committee for the association. The executive committee also acts as the Code Authority.

Cover Paper Manufacturers

R. S. Madden, of the American Writing Paper Company, was re-elected president of the Cover Paper Manufacturers Association at the annual meeting in the Waldorf-Astoria on Wednesday. J. B. Shepherd, of the Peninsula Paper Company, was renamed vice-president. The executive committee consists of R. S. Madden, chairman; J. B. Shepherd; G. H. Beckett, of the Beckett Paper Company; A. E. Frampton, of the Hammermill Paper Company, and J. B. Van Horn, of the Holyoke Card and Paper Company. E. H. Naylor was re-elected secretary-treasurer and M. C. Dobrow, assistant secretary.

Bristol Board Manufacturers

The Bristol Board Manufacturers at its annual meeting at the Waldorf-Astoria Hotel, elected the following officers for the ensuing year:

Chairman, Norman Harrower, Linton Bros., Fitchburg, Mass.; vice-chairman, Edward Bailey, Hollingsworth & Whitney Company, Boston. The members of the Board of Directors are: S. Dillingham, West Virginia Pulp and Paper Company; M. S. Flint, Brown Company; W. B. Darling, Munising Paper Company; Joseph E. Holmes, Chemical Paper Manufacturing Company.

Glassine and Greaseproof

The general meeting and election of officers of the Glassine and Greaseproof Manufacturers Association was held at the Waldorf-Astoria on Wednesday. Robert F. Nelson, of the Glassine Paper Company, was re-elected chairman. Carl Stansbury, of the Thilmany Pulp and Paper Company, was added to the executive committee, which also includes Folke Becker, of the Rhinelander Paper Company; and John L. Riegel, of the Riegel Paper Corporation. Thomas J. Burke, C.A., 122 East 42nd Street, is the secretary-treasurer.

Book Paper Manufacturers Association

At the annual meeting of the Book Paper Manufacturers Association, held on Thursday at the Waldorf-Astoria Hotel, the following officers, who also comprise the Executive Committee, were re-elected:

Chairman, G. H. Mead, The Mead Corporation; treasurer, P. H. Glatfelter, P. H. Glatfelter Company; and C. A. Gordon; J. L. Fearing; J. R. Miller; R. D. Smith; W. T. Schmitt; J N. Bergstrom; G. K. Ferguson; J. S. Sensenbrenner; L G. Thomson.

Kraft Paper Association

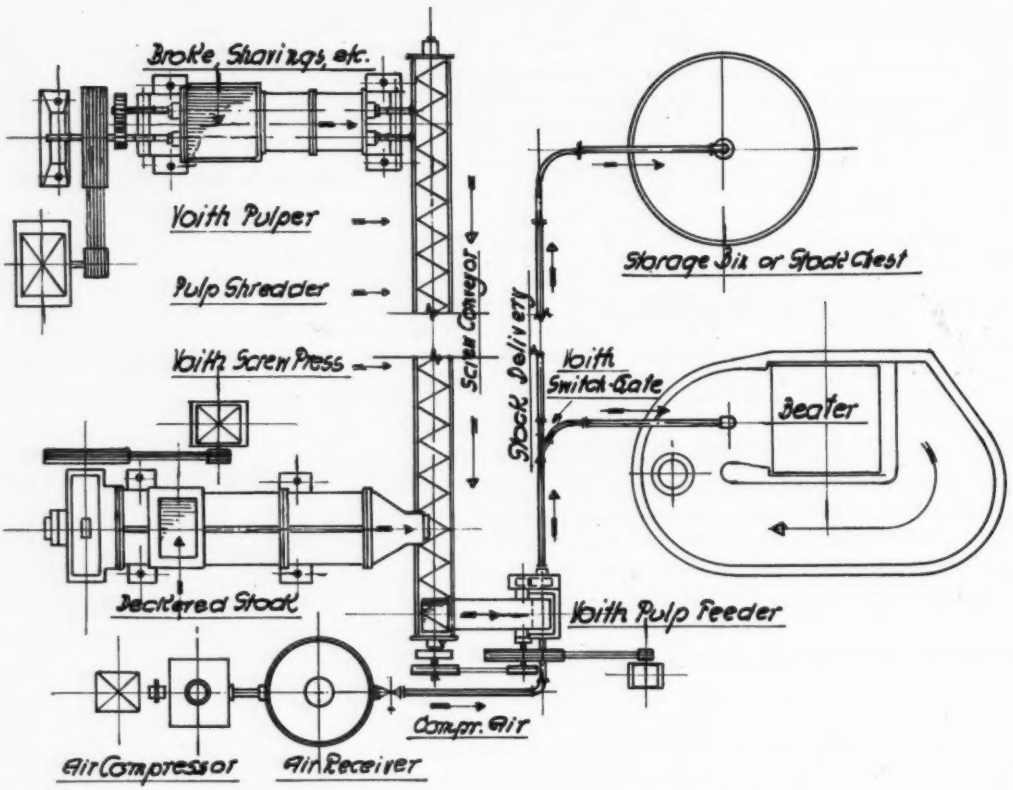
The Kraft Paper Association held a series of important meetings during the week. The officers were re-electd, as follows: Prsident, H. W. Ellerson, Albermarle Paper Manufacturing Company; vice-president, John R. Miller, West Virginia Pulp and Paper Company; secretary-treasurer, John R. Diggs, 369 Lexington Avenue, New York. The only change made in the executive committee was the election of K. E. Stansbury, of the Thilmany Pulp and Paper Company, to replace another member of his organization.

Specialty Paper and Board

Louis E. Voce, of Hollingsworth & Voce, East Walpole, Mass., was re-elected president of the Specialty Paper and Board Association, at a general meeting of the organization held in the Waldorf-Astoria on Wednesday. Problems affecting the industry were thoroughly discussed at this session.

Voith

Pneumatic Conveying Systems for Pulp and Paper Mills



Over 300 installations, several of them in U. S. mills, testify to their high efficiency and absolute reliability in operation.

Full particulars will be gladly supplied upon inquiry.

J. M. VOITH COMPANY, INC.

405 Lexington Ave. (Chrysler Bldg.) **NEW YORK, N. Y.**

Wisconsin Paper Group Elects Officers

The Annual Meeting of the Wisconsin Paper Group was held on February 2, 1934, at the Valley Inn, Neenah, Wis. The following mills were in attendance: The Appleton Coated Paper Company, Bergstrom Paper Company, Central Paper Company, Dells Pulp and Paper Company, Fox River Paper Company, Gilbert Paper Company, Kimberly-Clark Corporation, Neenah Paper Company, Rhinelander Paper Company, Riverside Paper Corporation, Whiting-Plover Paper Company.

The following officers were elected and have already assumed active work in the organization: President, D. W. Bergstrom, Bergstrom Paper Company; Vice-President, Leo E. Croy, Menasha Products Corporation; Secretary-Treasurer, Leo O. Schubart, Neenah Paper Company.

It was voted to increase the executive committee to seven members and the following were named: D. W. Bergstrom, Bergstrom Paper Company; Kimberly Stuart, Neenah Paper Company; Leo E. Croy, Menasha Products Corporation; C. B. Clark, Riverside Paper Corporation; Fred C. Heinritz, The Appleton Coated Paper Company; Richard F. Bellack, Whiting-Plover Paper Company; John A. Wesley, Rhinelander Paper Company.

The officers and executive committee have since hired a full time secretary and opened permanent offices in the Neenah State Bank Building, which will greatly facilitate the services of the group. The secretary appointed is Irwin Pearson, who will work in close connection with the Traffic Committee, consisting of P. J. Reimer of the Gilbert Paper Company, J. E. Hafstrom of the Menasha Products Corporation, Herman Krueger of the Riverside Paper Corporation and Henry Krueger of the Fox River Paper Company.

The Advertising Committee is headed by E. S. Colvin of The Appleton Coated Paper Company and consists of Colvin, R. F. Bellack of Whiting-Plover Paper Company, Mark Peacock of Bergstrom Paper Company, and Stuart Thompson of Central Paper Company.

With these changes, the Wisconsin Paper Group widens the scope of its activities considerably. The state of Wisconsin has some fifty-five paper mills, manufacturing well over two hundred different grades of paper. The various grades of paper move into every market in this country and into many foreign countries. The purpose of the Wisconsin Paper Group is to aid in expediting service on these various papers to the trade. Full cognizance is taken of modern-day trend of merchandising and the Group offices at Neenah are now in position to answer promptly all inquiries relating to this large number of mills and their products.

Linweave Association

At the Annual Meeting of the Linweave Association, held February 17 at the Waldorf-Astoria Hotel, New York City, the following association officers were elected for the ensuing year: President, H. W. Keil, The Millcraft Paper Company; Vice-President, A. W. Leslie, The John Leslie Paper Company; Secretary-Treasurer, J. H. Brewer, Jr., Storrs & Bement Company. Member of Executive Committee, Ralph H. Fales, Allan & Gray, N. Y. C.

E. V. Johnson, general manager of the United States Envelope Company, presided. E. L. Wood, assistant manager of the P. P. Kellogg & Co. Division, and E. L. Wight, advertising manager of United States Envelope Company, were in charge of the sales and advertising sessions respectively, in the absence of Fred A. Williams, Linweave manager, who is confined to his home by illness. George Trenholm, Boston artist and designer, and Mitchell Kennerley, publisher, also appeared as speakers on the program.

An interesting display of foreign wedding invitations and announcements was shown to those present in connection with the introduction of a new Linweave Wedding stock.

The Linweave Sales Contest Cup, for the largest percentage of increase in sales, was awarded to The Alling & Cory Company of New York City.

Linweave distributors were present from as far West as the Pacific Coast.

Code Authority for Waxed Paper

Administrator for Industrial Recovery Hugh S. Johnson, February 17 announced approval of the Code Authority for the Waxed Paper Industry, by the members of the executive committee of the American Waxed Paper Association chosen by members of the industry.

The officers and members of the Executive Committee are as follows: President, W. J. Eisner, President, Newark Paraffine and Parchment Paper Company, New York City; vice-presidents, V. E. Nunez, vice-president, Nashua Gummed and Coated Paper Company, Nashua, N. H., and Leo E. Croy, vice-president, Menasha Products Company, Menasha, Wis., and Walker Hamilton, secretary, Riegel Paper Corporation, New York City, D. C. Hurlbut, president, Bennington Wax Paper Company, Bennington, Vt.; A. Southon, vice-president, Kalamazoo Vegatable Parchment Company, Kalamazoo, Mich.; L. O. Turner, president, Detroit Wax Paper Company, River Rouge, Mich.; Edgar L. Berkely, president, Waxide Paper Company, Kansas City, Mo.; V. H. Wilshire, president, the Specialty Papers Company, Dayton, Ohio, and Andrew Christ Jr., president, Western Waxed Paper Company, Oakland, Cal.

Paperboard Code Authority

Administrator for Industrial Recovery Hugh S. Johnson, February 19 announced recognition of the executive committee of the National Paperboard Association as the Code Authority for the Paperboard industry.

Members of the recognized committee are elected for a uniform term of one year. The personnel of the committee follows: Sidney Frohman, the Hinde & Dauche Paper Company, Sandusky, Ohio, chairman; W. J. Alford, Jr., Continental Paper Company, Ridgefield Park, N. J., vice-chairman; E. V. Donaldson, Robert-Gair Company, Inc., 155 East 44th Street, New York City; E. T. Gardner, the Gardner-Richardson Company, Middletown, Ohio; A. J. Goldsmith, Mead Paperboard Company, Chillicothe, Ohio; J. W. Kieckhefer, Kieckhefer Container Company, Milwaukee, Wis.; J. Gibson McIlvain, Downingtown Paper Company, Downingtown, Pa.; G. G. Otto, Alton Box Board and Paper Company, Alton, Ill.; W. P. Paepcke, Container Corporation of America, Chicago; H. L. Rauch, Consolidated Paper Company, Monroe, Mich., and W. B. Turner, Terre Haute Paper Company, Dayton, Ohio.

Code Authority for Paper Merchants

Administrator for Industrial Recovery Hugh S. Johnson February 17 recognized the following seven members as the Code Authority for the Paper Distributing Trade:—Charles A. Estey, Carter, Rice & Company, Boston, Mass.; Oswald F. Marquardt, Marquardt & Co., New York City; Sidney L. Wellhouse, National Paper Company, Atlanta, Ga.; Richard S. Bull, Bradner, Smith & Co., Chicago; Arnet W. Leslie, John Leslie Paper Company, Minneapolis, Minn.; E. G. Kerwin, Graham Paper Company, St. Louis, Mo.; and Harold L. Zellerbach, Zellerbach Paper Company, San Francisco, Cal.

SODA ASH Wherever Soda Ash is used, Mathieson quality is accepted as the standard of purity and uniformity. America's leading chemical users specify "Mathieson" Soda Ash year in and year out, not only because of its unvarying performance, but because of the value of Mathieson traffic counsel and technical cooperation.

A trained technical staff is at your command, whether your problem involves the use of Soda Ash or any of the other chemicals listed below.

***The* MATHIESON ALKALI WORKS (*Inc.*), 250 PARK AVENUE, NEW YORK, N. Y.**

Soda Ash... Liquid Chlorine... Bicarbonate of Soda... HTH and HTH-15... Caustic Soda... Bleaching Powder... Ammonia, Anhydrous and Aqua... PH-Plus (Fused Alkali)... Solid Carbon Dioxide... CCH (Industrial Hypochlorite).

Technical Association Holds Annual Meeting

C. C. Heritage, of the Oxford Paper Co., Is Elected President at the Nineteenth Annual Convention, February 19-22—Organization Is in Excellent Shape Financially, Membership Has Held Up Well and General Progress Has Been Splendid.

The nineteenth annual convention of the Technical Association of the Pulp and Paper Industry at the Waldorf-Astoria Hotel, New York, from February 19-22 inclusive, was well attended by representative technical men from the leading paper centers throughout this country as well as Canada. All the sessions from the joint meeting of the American Paper and Pulp Associations and the Technical associations on Monday, at which "Paper Classifications and Standards" were considered, to the annual luncheon which closed the convention on Thursday were of absorbing interest. The high light of the latter function was the address of Deputy Administrator W. W. Pickard, of the Paper Division of the National Recovery Administration, Washington, D. C. Mr. Pickard's speech in full will be found elsewhere in this issue.

President's Address

Allen Abrams, president of the association, delivered his annual address as follows:

Despite the strenuous year through which we have passed, your association is in excellent shape financially, as to membership and in general progress. But let no one imagine that we are satisfied with our accomplishments.

Your president has urged and we have seen a distinct improvement in the conduct of our meetings. Through the activity of our Council we have checked up on committee progress, have planned committee work for the ensuing year and have thus been assured of programs which are diversified, interesting and informative. Authors have confined their presentations to essentials, making it possible for each subject to have the proper amount of discussion, while people interested in the details have consulted the printed article.

We have gathered related papers into symposia which give the listener a rounded picture of subjects having current interest. As a result of this it has become necessary to lengthen our annual meeting so that the first day may be devoted to matters which are of value not only to our association but to allied groups in the industry. The program yesterday on paper grading is an evidence of what may be accomplished by such collective effort.

Importance of Committee Activities

Your executive committee appreciates the importance of committee activities to TAPPI. Much time has been spent along these lines and definite accomplishments have been made during the year.

Among the committees which have produced good results are the Paper Use Requirements of which P. K. Baird is chairman. They have determined by questionnaire what properties are of importance in different grades of paper and this information is of timely assistance in the operation of codes. The Permanence and Durability Committee, of which F. C. Clark is chairman, has worked in educating the public to a better understanding of these terms and has given valuable advice to other organizations interested in these qualities. The Patents Committee under C. W. Rivise, has issued constructive bulletins of educational value to our members. The Education Committee, led by H. G. Noyes, has completed a cooperative study with the Federal Board for Vocational Education. This booklet, "Vocational Training for the Pulp and Paper Industry," issued through the joint efforts of these groups, will find wide use among pulp and paper mills for better training of personnel in modern operating practice.

The Pulp Testing Committee, of which Howard Morgan is chairman, has been actively engaged in standardizing equipment and methods for determining the physical characteristics of pulps. Other committees which are rendering valuable service in their respective fields are: Management Methods, H. L. Joachim, chairman; Heat and Power, A. G. Darling, chairman; Preparation of Non-Fibrous Materials, H. G. Schwalbe chairman; Stuff Preparation, D. M. Sutherland, Jr., chairman; Fundamental Research, H. F. Lewis,

C. C. HERITAGE, President

R. T. MACDONALD, Secretary-Treasurer

PULP

PERKINS-GOODWIN CO.

Established 1846

551 FIFTH AVENUE, NEW YORK

TELEPHONE: VANDERBILT 3-2800

PAPER

chairman; Paper Testing, B. W. Scribner, chairman; Non-Fibrous Materials Testing, W. A. Chapman, chairman; Coating, J. J. O'Connor, chairman. I should like to express the appreciation of the Association to these and other active committees; and to the chairmen of the various divisions who are keeping this work in progress.

The Central Research Committee of the A.P.P.A.—which is composed largely of TAPPI members—has worked with the various pulp and paper research groups in this country to secure better correlation of activity and to avoid duplication of effort. This committee appreciates the desirability of fundamental research being carried on in government laboratories and urges the extension of such studies.

Our fall meeting in Appleton was well planned and carried out by Otto Kress and his committees. The Institute of Paper Chemistry was a revelation to many who had not seen it before; and the high light of the meeting was the presentation of the third TAPPI Medal to Ernst Mahler, founder and president of the Institute and one of the founders of our association.

Fall Meeting to Be Held on Pacific Coast

Our 1932 Fall Meeting was held in New England, the 1933 meeting in the Central States, and this September we shall journey to the Pacific Coast. H. R. Heuer, who is geenral chairman of the meeting has already organized his committees and they are preparing a program which will be constructive and entertaining. The Northern Pacific Railroad will run a special TAPPI train from Chicago giving members an opportunity to stop for short periods at points of interest, to see the Rockies and other mountains, and to spend a day in the incomparable Yellowstone Park. G. S. Brazeau, chairman of the Transportation Committee is devoting much of his time to perfecting the details of this trip; and is also arranging for a return trip on the Great Northern through Glacier Park. However those who desire may come back by other routes such as through California and the Grand Canyon of the Colorado. Every member who can possibly do so should arrange to combine his vacation with this wonderful opportunity to see the West.

Sectional Organizations

The growing interest in TAPPI is reflected in the activity of its sectional organizations. The chairmen of these groups have demonstrated an appreciation of relativity by showing that timely programs will bring together men widely separated by space. Here, as in all its endeavors, your Association has followed the practice of giving members mental as well as physical refreshment. During the coming year there will be increasing interest in these meetings through greater use of the information derived from the TAPPI Special Reports.

Last fall your president visited the Pacific Section at the time of the meeting in Tacoma. The people in that part of the country have progressive spirit; they have some of the finest mills in the country; and their Section is a great credit to our organization. You will understand all this better after your visit to the coast in the fall.

In May of last year your association organized a group to go on to Savannah and see the work being conducted by one of our members, C. H. Herty, on the production of sulphite and ground wood pulps from Southern pines. The large number who attended were impressed by the intelligent progress made on this problem. The recent commercial run of newsprint made wholly from southern woods shows that another vast source of pulpwood will probably be available soon.

Passing Events

Now it is simpler and considerably safer to be a historian than a prophet. Only a person with wandering mind would have predicted last February that within the year we should see the collapse of our banking system, virtual abandonment of the gold standard, the recognition of Russia, four million men put to work by the government and a New Deal which not only created the greatest dictator of all time but which put the professors into power and commerce into codes.

But that is exactly what has happened.

Today we have manufacturers getting together for intelligent discussion and solution of their problems. The business man who formerly prided himself on being hard-headed has generally found that he was either bone-headed or selfish. If the New Deal calls for anything it demands fair play, more equitable distribution of material wealth, a greater opportunity for leisure and some real exercise of the Golden Rule.

Cooperation Under the Codes

In the pulp and paper industry various groups are engaged in working out details of their cooperation under the codes. One of the most difficult problems has been to define grades and to specify the qualities for each grade. The steps in grading consist in determining just what the use requirements of a paper are and hence what qualities are of importance; by what instruments and methods these qualities shall be measured; and what limiting specifications shall be laid down for each grade.

The fundamentals are quite simple but when more than twenty groups set about grading their papers, only confusion can exist unless some organization such as ours shall act as a clearing house for information. As a result the Paper Industry Authority has requested us to study the situation and to assist in working out such standardization. This occasion demonstrates the value of our divisional organization by functions. Here is adequate representation of the different interests concerned with grading, management, production, testing, sales and consumption. Give them proper expression and a rational system will result which may entirely change our present ideas of classification.

These trends in our own field and in allied industries make us pause to wonder what lies ahead and to indulge in some degree of speculation.

Restriction on Trades and Equipment

We have already seen restriction placed on the production of certain standard grades of paper and further curtailment will undoubtedly follow on other grades and on the installation of new equipment. This should give impetus to the development of new types of paper which are less competitive. It follows that greater opportunities will exist for organizations prepared to carry on research toward the production of such grades.

While much of our activity has been devoted to the physical properties and uses of wood cellulose, we shall see the chemical derivatives in the ascendency. Witness the comparatively recent introduction of viscose, acetate, and copper-ammonium silks; the phenomenal growth of low viscosity nitrocellulose lacquers; the rapid increase in use of viscose and acetate transparent papers. The present attempt to saddle a compensatory tax on paper products competing with cotton is evidence that other groups are alive to the importance of our developments.

In general we may view the introduction of this new philosophy into business with hopefulness. The NRA will eliminate many of the unfair practices with which we have struggled, but it cannot penalize constructive progress. There may be requirements limiting the hours of manual labor but brain power can not be coded.

We should be gratified with the progress of our associ-

BLEACHED SULPHITE PULP

PULP DIVISION

WEYERHAEUSER TIMBER COMPANY

LONGVIEW, WASHINGTON

ation. It was founded at a time when technical work was just being recognized as of industrial value. The primary tenet was the encouragement of original investigation and the interchange of ideas to accelerate manufacturing progress. To this we have clung steadfastly during the intervening years. Today this principle is so widely accepted that our membership is drawn from all vocations of the industry.

That we are no longer a group of restricted interests is evidenced by the support we are receiving and the character of the work we are doing. There was never a period in the life of our industry when we could be of greater service. Every member should be impressed with the opportunity we have and the responsibility we assume. Let us accept these and press forward to greater accomplishments.

Report of the Secretary-Treasurer

R. G. Macdonald, secretary-treasurer, presented his annual report as follows:

The year 1933 for the Technical Association of the Pulp and Paper Industry was noteworthy because of the great improvements made in its divisional and sectional activities.

Membership

In spite of the financial conditions prevailing, the membership has been kept well above the one thousand mark. In 1933 there were 114 members elected and 139 resigned or were dropped from the membership. On December 31, 1933, the total individual membership was 1,068.

There were 2 corporate members and 8 contributing members added, the former being paper companies and the latter companies in the allied industries. The corporate membership on December 31st was 71 and the contributing membership 42.

The companies that became corporate members were:

Aubry Paper Mills, Croisett les Rouen, France.
Feldmuhle Papier und Zellstoffwerke A/G, Stettin, Germany

The companies that became contributing members included:

American Cyanamid & Chemical Corporation
Babcock & Wilcox Company
International Printing Ink Corporation
Krebs Pigment and Color Corporation
New Jersey Zinc Company
Sturtevant Mill Company
Titanium Pigment Company
Valley Iron Works Company

Necrology

The association has lost through death, the following of its members in 1933:

T. J. Keenan, E. A. Bergholtz, F. C. Farnsworth, W. L. Nixon, J. A. Fux

Special Reports and Service to Members

The experience of the past several years has demonstrated that members of the association desire and appreciate personal services rendered by the central office. A large number of inquiries are received and the Secretary wishes at this time to express his thanks to the many who have courteously given him assistance in aiding inquirers in the solution of their problems. Because of the large number who have given such assistance it would be better to mention no names, but it may be said that the strengthened divisional organization has made it possible for the association to obtain valuable and reliable information in the minimum of time. The Government and educational institutions have continued to cooperate excellently with the association. In addition to supplying information the Secretary has endeavored to bring together on frequent occasions a number of individuals who could discuss problems of mutual interest to advantage.

Certain inquiries presented were of a nature wherein the experience record of a large number of individuals was needed. Such inquiries have been sent to the entire membership and transcripts in blank of the replies received have been sent to all who have given information. These transcripts are called Special Reports, and the following were issued in 1933 and sent to corporate members:

No. 186—Paper Sheet Formation Defect
187—Paper Machine Slices
188—Application of Rosin Size
189—Preparation of Rosin Size
190—White Water for Cylinder Machine Showers
191—Losses in the Pulp and Paper Industry
192—Fundamental Research Problems
193—Absorbency of Unsized Paper
194—Bond Paper Finishing Room Waste
195—Washing of Bleached Sulphite
196—Preparation of Bleach Liquor
197—An Economical Dehumidification System
198—Hang-ups in Sulphite Digesters
199—Heat Utilization in Sulphite Cooking
200—Heat Utilization in Alkaline Pulp Cooking
201—Calender Roll Pitting by Starch Preparation
202—Covers in Wire Suction Boxes
203—Chrome Nickel Blow Pit Bottom
204—Changes in Strength Properties in Sulphite Pulp
205—Rubber Covered Rolls

A development of interest relative to special inquiries has been an arrangement made with the Canadian Pulp and Paper Association Technical Section whereby inquiries originating in that body are circulated through the TAPPI membership and TAPPI inquiries are sent to members of the Canadian organization. The results thus far have been of benefit to both organizations.

New Offices

In December, 1933, the Technical Association offices were moved from 370 Lexington Avenue to the Chanin Building, 122 East 42nd street, corner of Lexington Avenue. This move was made in accordance with a policy long followed, of keeping the association's headquarters close to those of the American Paper and Pulp Association, the parent body of TAPPI. This arrangement has benefited both bodies to a considerable extent for many years.

1933 Fall Meeting

The 1933 fall meeting was held at Appleton, Wisconsin, and featured the scientific work being carried on at the Forest Products Laboratory, Madison, Wisconsin and the Institute of Paper Chemistry, Appleton, Wisconsin. The meeting was held on September 26-28, 1933 and more than 300 attended. The success of the meeting was due to the generous efforts of the enthusiastic local committee under the chairmanship of Otto Kress, technical director of the Institute of Paper Chemistry.

Articles of Organization

At the fall meeting at Appleton the TAPPI Articles of Organization were amended to provide that a tentative standard specification, testing method or recommended practice can be established only if it has the approval of three-fourths rather than two-thirds of the membership of a committee. This amendment was considered desirable since it has been evident that the association membership is usually willing to vote favorably on any standard which has been approved by an association committee. Under such

HERE ARE THE FACTS

Approximately 388,000 tons of paper and board were sized with Bennett Rosin-Wax Size in 1933, an increase of 35% over 1932.

Prepared Bennett Sizes are now manufactured and shipped from three size plants conveniently located at Cambridge, Mass., Cincinnati, Ohio, and Chambly Canton, P. Q.

In addition, 14 paper mills in the United States and Canada have installed Bennett Dispersion Machines for making Bennett Rosin-Wax Sizes at their own plants. Those who have installed Bennett Size Making Equipment report savings of from 35% to 50% when using Bennett Size in place of rosin size.

And finally, Bennett Rosin-Wax Sizes are being used to improve the utility and salability of almost every grade of paper and board including; halftone, hanging, ground wood specialties, S.C. and M.F. book, magazine, sulphite bonds, envelope, lithograph, rag papers, kraft, index bristol, post card, patent coated board, folding box board, test liner, insulating board, and many additional products where special properties are desired.

BENNETT

TRADE MARK

ROSIN-WAX SIZE

Each year, for seven consecutive years, the consumption of Bennett Rosin-Wax Size has shown a substantial increase over the previous year. *Why?*

***Because*—Bennett Rosin-Wax Sizes are the accepted standard of quality in the Paper Industry, carefully blended from the proper proportions of rosin and waxes specifically prepared for the purpose of paper sizing.**

***Because*—Bennett Research, which is devoted exclusively to the field of wax sizing, has resulted in continuous improvements in processes and products.**

***Because*—Bennett Technical Service is handled by representatives who are practical paper makers, experienced in the use of Bennett Rosin-Wax Sizes under various mill conditions, and capable of demonstrating their profitable application in solving difficult sizing problems.**

BENNETT INCORPORATED
CAMBRIDGE: MASS., U. S. A.

BENNETT LIMITED
CHAMBLY CANTON, P. Q., CANADA

THE HILTON-DAVIS COMPANY
CINCINNATI, OHIO, U. S. A.

circumstances it is obvious that great care must be taken to assure the membership that the item to be voted on has the endorsement of the individuals in the association who are best qualified to pass on them.

Employment

The association headquarters continues to be a clearing house for employment of technical men such as engineers, chemists, superintendents and mill managers. A large number of placements have been made but there are still a number of highly competent men unemployed who would be an asset to any company that might employ them.

Publications

The official publication medium of the association is the PAPER TRADE JOURNAL which publishes the papers presented at meetings as well as the original contributions of members. George S. Macdonald, publisher, and Henry J. Berger, editor of that publication, have given generously of their time and interest to the Technical Association. In addition to the regular space in the Journal allotted to TAPPI much space in the news and editorial sections has been devoted to reports of local section meetings, committee activities and association news items.

The Lockwood Trade Journal Company has supplied preprints for both the annual and fall meetings and in addition has contributed $500 toward the publication of Technical Association Papers, the annual book of meeting transactions which in 1933 ran to a record size of 572 pages. The cover stock of this volume was donated by the Bogalusa Paper Company.

The Annual Bibliography and U. S. Patent List, prepared by Clarence J. West, was issued in March and has been enthusiastically received. The Paper Makers Association of Great Britain and Ireland has decided to discontinue its annual bibliography and will serve as a distributing organization to supply the TAPPI Bibliography to its members. This procedure was adopted to avoid a needless duplication of effort.

The 1933 Year Book of TAPPI was issued in August and contains an alphabetical and geographic list of association members, a list of all papers ever presented at TAPPI national meetings, reports of local sections, a list of the Special Reports, an index to the TAPPI Standards, Regulations Governing Manuscripts, Standards and Committees, committee personnel as well as considerable general information.

TAPPI Standards, a loose-leaf manual of tentative and official standard testing methods, specifications and recommended practices was issued in June, 1933, and is considered by many to be one of the most worthwhile contributions made by the association to the pulp and paper industry. The loose-leaf feature of the manual makes it possible to add and substitute pages at will. This service of perpetuating the manual is given to members in good standing in the association. Copies of the manual and new pages may be purchased by non-members although it is felt that any individual who may have a need for the manual should be a member of the association.

Cooperative Activities

The Technical Association under the National Recovery Administration is an affiliated member of the American Paper and Pulp Association, which is now a federated organization made up of a large number of trade associations which are associate members.

To contribute toward the goal of the Paper Industry Authority to administer a code of fair competition the Technical Association has volunteered its services to aid in the establishment of quality standards for the products of the industry. To this end a classification or grading committee is contemplated. Much activity along these lines is expected to characterize the work of the association in 1934.

The association is a member of the American Society of Testing Materials and the Inter-Society Color Council and is represented in a number of technical organizations as well as on the Joint Committee on Approved Pulp Testing Chemists (with A. P. P. A. and Association of American Wood Pulp Importers), the Joint Text Book Committee (with the Canadian Pulp and Paper Association) and the Central Research Committee (with the A. P. P. A.).

Sections

The programs of the five sections of the associations have been improved considerably during the past year and have resulted in greatly increased attendance at the meetings. The sections exist primarily to advance the aim of the association to stimulate exchange of information between members. By arranging for frequent meetings in a number of papermaking centers this end is advanced.

The Delaware Valley Section is extremely well organized under the chairmanship of G. E. Landt, H. P. Cannon as vice-chairman and J. S. Harper, Jr., Secretary-treasurer. The meetings are held monthly in Philadelphia.

The Pacific Section continues to be very much alive and is planning to sponsor the 1934 fall meeting of the association at Portland, Oregon. The recently elected officers are Lawrence Killam, chairman, R. B. Hansen, vice-chairman, and A. S. Quinn, secretary-treasurer.

The Lake State Section holds well attended monthly meetings and sponsored the 1933 fall meeting of the association at Appleton, Wisconsin. The chairman is R. J. Le Rioux, A. T. Gardner is vice-chairman, and the secretary-treasurer is G. H. McGregor.

The Kalamazoo Valley Section continues under the leadership of Harry Bradford. C. C. Schneider is vice-chairman and R. L. Barton is secretary-treasurer.

The New England Section which has just completed its first year as an organization, has held a number of well atended meetings. F. C. Clark is chairman, F. A. Curtis is vice-chairman, H. U. Kiely, secretary and W. O. Johnson, treasurer.

Divisions and Committees

The new TAPPI Standards has served as a spur to committee activities since it provides a tangible repository for committee accomplishments which may finally be expressed in terms of standard recommended practices, testing methods or specifications.

Good divisional leadership has done much to get the divisional organization plan working. There is much, however, still to be done but the time factor seems to be necessary to bring about the desired results.

Since the various committees will report their progress at this meeting nothing will be said in this report about their work. There were a number of personnel changes made that should, however, be made a matter of record.

In the Management Division, W. M. Shoemaker of the National Vulcanized Fibre Company replaced W. R. Maull of Dill & Collins, Inc., as general chairman. Mr. Maull was elected to the Executive Committee.

W. M. Shoemaker was succeeded by H. L. Joachim of the Federal Paper Board Company as chairman of the Management Methods Committee.

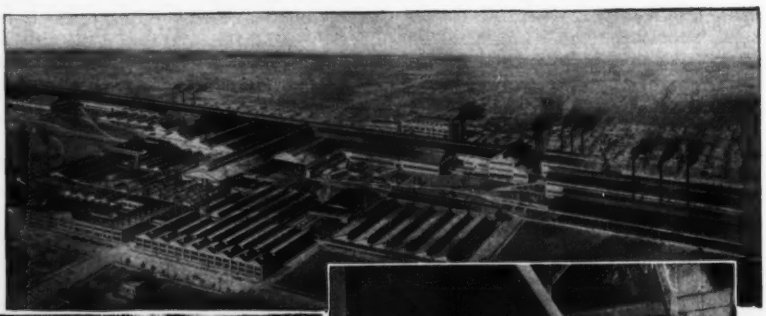
In the Engineering Division, M. H. Teaze of Hardy S. Ferguson & Company, succeeded E. F. Bearce of the Chillicothe Paper Company as general chairman.

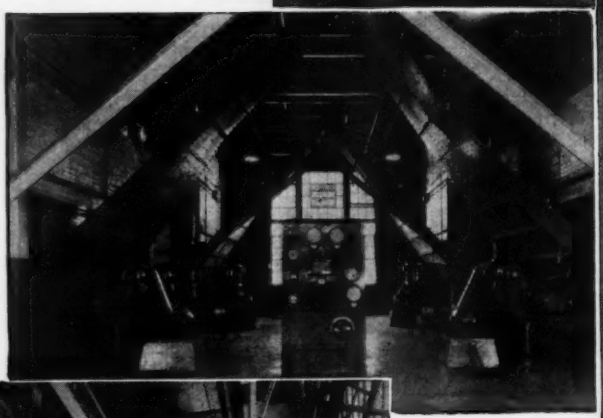
A. G. Darling of the General Electric Company replaced M. H. Teaze, chairman of the Heat and Power Committee.

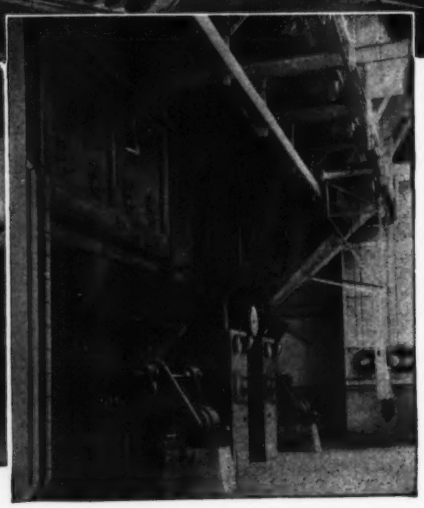
In the Raw Materials Division C. E. Peterson of the

Taylor Stokers

Chosen by the Leaders







In the progressive plants of the country . . . organizations that have won places among the leaders by the merit of their products and the efficiency of their management . . . you find the TAYLOR STOKER.

Just to mention a few in the paper industry that we have served:

RHINELANDER PAPER CO.
FORT HOWARD PAPER CO.
CASTANEA PAPER CO.
LEE PAPER CO.
NORTHWEST PAPER CO.

Write for booklet, "Burning coal the Modern Way." It will be of interest to every executive responsible for the economical production of steam.

TAYLOR STOKERS are used by every industry that requires steam for power or heating.
Let us give you the facts. There is no obligation.

AMERICAN ENGINEERING

AMERICAN ENGINEERING COMPANY, 2401 ARAMINGO AVENUE, PHILADELPHIA

Riegel Paper Corporation replaced A. C. Dreshfield of the Paper Makers Chemical Corporation as the chairman of the Non-Fibrous Raw Materials Committee.

Other Changes

In the Testing Division, E. O. Reed of Crane & Company, who was elected to the Executive Committee, was succeeded by R. C. Griffin of Arthur D. Little, Inc.

H. W. Morgan of the New York State College of Forestry, replaced D. E. Cable of the U. S. Rubber Company, as chairman of the Pulp Testing Committee.

W. A. Chapman of Skinner & Sherman, Inc., replaced R. C. Griffin as chairman of the Non-Fibrous Materials Testing Committee.

There were no changes in the Research and Development Division.

In the Converting and Consuming Division, H. P. Cannon of the Container Corporation of America replaced E. C. Lathrop of the Celotex Company as chairman of the Laminating Committee.

In the Operating Division, H. C. Schwalbe of Dill & Collins, Inc., replaced K. A. Taylor of the Oxford Paper Company as chairman of the Preparation of Non-Fibrous Materials Committee.

D. Manson Sutherland, Jr., consulting engineer, replaced James Coghill of the Noble & Wood Machine Company, as chairman of the Stuff Preparation Committee.

F. C. Ladd of the Keith Paper Company succeeded Lyman M. Smith of the Cherry River Paper Company as chairman of the Paper Manufacture Committee.

TAPPI Council

A factor that has been important in the improvement of the association's divisional organization has been the meeting of the TAPPI Council. This is an unofficial body made up of the division chairmen and the members of the Executive Committee. At meetings of the Council the programs of the association work have been prepared. Such meetings have also provided an opportunity to discuss the general welfare of the association.

Conclusion

The Secretary wishes to again acknowledge with thanks the many courtesies extended to him and the wholehearted assistance given him by all who have been called on to do so.

The spirit of cooperation in the association is very great and assures those who are concerned with the perpetuation of the organization, that the future of TAPPI is bright.

Technical Association Officers

At the annual meeting of the Technical Association of the Pulp and Paper Industry the following officers were elected for the ensuing year:

President, Clark C. Heritage, Oxford Paper Company, Rumford, Me.; vice-president, Grellet N. Collins, International Paper Company, New York; secretary, R. G. Macdonald, 122 East 42nd street, New York.

The members of the Executive Committee are: C. C. Heritage; Grellet N. Collins; H. R. Murdock, Champion Fibre Company, Canton, N. C.; B. T. Larrabee, Pulp Division, Weyerhaeuser Timber Company, Longview, Wash.: W. S. Kidd, E. B. Eddy Company, Ltd., Hull, Que.; Otto Kress, Institute of Paper Chemistry, Appleton, Wis.; W. R. Maull, Dill & Collins, Inc., Philadelphia; E. O. Reed, Crane & Co., Dalton, Mass.; Helen U. Kiely, American Writing Paper Company, Holyoke, Mass.; Henry P. Carruth, Mead Corporation, Chillicothe, Ohio.

U. S. Casein Imports Higher in 1933

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., February 21, 1934—Casein, an important dairy by-product primarily used as an industrial sizing material, was brought into the United States in larger quantities during 1933 than in the preceding year, according to C. C. Concannon, Chief, Chemical Division, Bureau of Foreign and Domestic Commerce.

General imports of casein in 1933 were six-fold those of 1932 on a quantity basis and were invoiced at 12 times that year's value. According to preliminary data, arrivals in 1933 totaled 8,141,598 pounds, valued at $444,689, in comparison with 1,201,014 pounds, valued at $38,466, in 1932. On the other hand, United States production was light compared with previous years.

Mr. Concannon stated that the principal supplier of foreign casein is Argentina, smaller amounts being received from France, Germany, Belgium, United Kingdom, Canada, British India and New Zealand. Shipments from Argentina in 1933 aggregated 6,926,810 pounds valued at $348,456 compared with arrivals in 1932 of 802,892 pounds valued at $13,703. Incoming shipments from France in 1933 increased to 446,450 pounds valued at $36,101 from 76,717 pounds with a value of $4,761 in 1932 while shipments from Germany totaled 635,082 pounds valued at $51,192 against 276,317 pounds with a value of $17,553 in the preceding year.

Although imports from Argentina registered a high level in 1933, Mr. Concannon said that this achievement was accomplished during the last half of the year when over 6,000,000 pounds were imported from July to October, inclusive. The average invoice unit value of shipments received from Argentina in 1933 was approximately five cents a pound compared with less than two cents in 1932.

Casein (lactarene) is, chemically, a protein found in milk in the form of calcium caseinate. United States production of casein has declined in recent years. The output in 1932, the latest year for which data are available, amounted to 24,428,000 pounds with an approximate value of $1,600,000. According to the Bureau of the Census the production value in 1931 totaled $2,236,845 and in 1929 aggregated $5,725,571.

Trade estimates, said Mr. Concannon, allocate about three-fourths of total domestic consumption of casein to the manufacture of coated paper. The next most important use is as an adhesive in the manufacture of plywood veneer products. Other important uses are in the manufacture of waterproof paints, in wall paper and as an ingredient of spray insecticides, in galalith or hardened casein plastics, and cement preparations. The U.S.P. grade is used as a diabetic food.

A. A. Hormel Goes With J. E. Rhoads & Sons

Those who knew the late E. W. Graw who introduced Tannate Leather Belting to many paper mills will be interested to learn that Alfred A. Hormel is taking over much of his teritory. Mr. Hormel has had sixteen years experience in the paper manufacturing field, and is widely known among the officers and personel of paper mills. Having had charge as supervising engineer of the construction and equipment of paper, pulp and hydro-electric plants costing in the aggregate over $15,000,000, he understands their transmission needs, and he has both the desire and the qualification to be of real service to paper mill executives. He is a thorough believer in Tannate transmission as offered by Rhoads. He knows the cruel drives that Tannate belt has conquered and kept on driving far longer than its predecessors.

German Paper Industry Improves

A definite improvement was registered in the paper products industry of Germany during 1933, according to a report from Vice consul Patrick Mallon, Leipzig, made public by the Commerce Department.

Favorable developments in the domestic market, the report points out, accounted for this trend, as export values during the year were notably lower than in 1932.

Several branches of the paper products industry played important parts in the recovery and consequent increase in employment. In the wall paper industry the first increase in domestic production became noticeable in the second quarter of 1933, when statistics showed a gain of 25 per cent in quantity over the corresponding quarter of 1932. Without any appreciable seasonal recession in the summer, the fall season began somewhat earlier than usual resulting in an increase for the third quarter of 35 per cent over the corresponding period of 1932.

While improvement in the card board box industry was somewhat slower, production was maintained well above the seasonal low point of 1932. Activity in the book-binding, envelope, and book-keeping equipment industries began to improve sharply after the seasonal low point in the summer of 1933.

The printing industry in general maintained about the same level as in 1932. During the third quarter of 1933 an improvement became evident in the book and specialty printing business, and a marked change for the better was noticeable in the newspaper printing trade.

"Facts" About Paper Values

For exceptionally interesting and effective use of "Facts about Paper Values," the new sales manual issued by the L. L. Brown Paper Company of Adams, Mass., A. T. Snowden of the D. L. Ward Company, Philadelphia, has been awarded a first prize of $25.00 in the Quality Selling Contest which that company is conducting. By means of the new sales tool, Mr. Snowden sold a large public utility on the extraordinary wear-resisting qualities of Resistal Linen Ledger in place of a non-paper product which formerly had been used.

"A very interesting part of the sale," Mr. Snowden states, "is the fact that the book not only secured the order for me, but, in addition, created a new order for paper where the prospect hadn't realized that paper could be made good enough to fill the bill."

The contest in which Mr. Snowden participated is conducted by the L. L. Brown Paper Company to determine the most interesting and successful use of "Facts about Paper Values," which its distributors' salesmen make in selling L. L. Brown papers.

John P. O'Brien Dead

John P. O'Brien, 72, widely known in the paper trade, died at his residence, 90 Highland street, Gardner, Mass., February 11, after a long illness. Mr. O'Brien was born in Lahaska, Pa. He learned the paper making trade as a youth and at the age of 22 became superintendent of a paper company at Merriton, Ontario. After several years there, he became superintendent of the Windsor Locks Division of the American Writing Paper Company. Later he bought the Anchor Mills Paper Company in Windsor Locks, conducting it until 1918, when it was destroyed by fire. In that year, he came to Otter River to assume the direction of the Otter River Board Company, which he had purchased in 1907. Mr. O'Brien was a member of the Knights of Columbus and the Elks lodges of Hartford, Ct.

Dutiability of Colored Printing Paper

The Import Committee of the American Paper Industry reports that the United States Customs Court has rendered an important decision in a case originating in Minnesota, involving the dutiability of colored printing paper in sheets which was claimed by the importers to be duty-free as standard newsprint. The court holds that paper in colors unsuitable for use in the printing of newspapers is not duty-free, but adds that as to other colors the dutiability of the paper is dependent on whether the paper is chiefly used for other than newspaper publishing, and unless it is proved that such paper is chiefly used for such publication it is dutiable. This decision in effect holds that colored newsprint in sheets is dutiable.

The importers of mandarin-colored paper from Canada for a United States automobile tire company's advertising, entered duty-free as standard newsprint paper, but classified as printing at ¼ cent per pound and 10 per cent ad valorem, protested this ruling to the United States Customs Court. When the case came up for trial, it was abandoned by the importers, with an admission that the paper was not standard newsprint as originally claimed.

At Seattle an importer of canary news in rolls has protested to the Court against a classification of such paper as printing paper, the claim made being that it is standard newsprint duty-free.

New Firms in the Paper and Allied Industries

The Acme Paper Company, Inc., Indianapolis, Ind., has been organized with capital of 100 shares of stock, no par value, to deal in paper products of various kinds. New company is headed by Louis R. and Ralph Rosen, and Samuel J. Mantel.

Carbonic Container Corporation, New York, has been chartered with capital of $1000, to manufacture special paper and other containers, boxes, etc. The new company is represented by Edward Hermann, 344 East 23rd street.

The ReKash Matchbook Company, St. Louis, Mo., has been organized to manufacture book matches and allied cardboard specialties. Incorporators are Claude E. Short and R. W. Karst, 3809 Lafayette street.

Monarch Paper Products Company, 446 North Second street, Philadelphia, Pa., has filed notice of company organization to deal in paper goods of various kinds. Nathan J. Epstein is head.

The Mineralized-Cell Wood Preserving Company, Wilmington, Del., has been chartered under state laws with capital of $100,000, to manufacture pulpwood products. The company is represented by the Corporation Trust Company, Industrial Trust Building, city.

Bolton & Sons Issue Folder

The John W. Bolton & Sons, Inc., Lawrence, Mass., have just issued a six-page folder describing their Bolton Wedgeless Plug. The merits of this plug for Jordans are described in detail, with illustrations. This folder may be obtained by merely writing for it. This piece of literature should find a place in the formation files of every individual responsible for production.

Star Paper Co. Buys Building

The Star Paper Company has purchased a building at 422 East Kalamzoo avenue, Kalamazoo, Mich., and is moving its machinery into the new plant. Fourteen thousand feet of floor space will be available in the new location. The company plans to expend approximately $4,000 in alterations to adapt the building to its needs.

Trade Names and Their Significance

By Frederic C. Clark[1]

The paper industry, like all old industries, has grown largely as a result of consumer demand. Various kinds and grades of paper have been developed to meet the special requirement of a consumer. These kinds and grades have then found immediate application for uses that were entirely unrelated to those uses for which the paper was originally developed. This practice or custom has led to the application of various names to these papers and generally the name applied was indicative of the purpose for which the paper was used. It is therefore easily understood why today we have the same paper being merchandised under so many names that show no apparent relationship to each other. The well-known Kraft wrapping paper, made of sulphate pulp, beaten for good folding, tearing and bursting strength and made in many mills is recognized on the market under sixty-five or more names that do not appear to have any relationship one to the other. Such names as Beaming Paper, Box Stays, Cable Paper, Die Wiping Paper and Tire Wrappers, convey no information as to the kind of paper referred to yet all these papers are largely or entirely cut out of regular runs of Kraft paper.

Further confusion is added to this whole matter because of the fact that many of these same papers, under the names noted above will also be found to be made wholly or partly of rope, unbleached sulphite, and ground wood pulps. The result of all of this is that we find a well-known paper being sold under a wide variety of names and for a wide variety of uses and at the same time we find papers having a variation in physical and chemical characteristics being marketed under the same name for identical uses.

Much confusion exists today in the paper industry due to the many basic sheet sizes in common use for the various kinds of paper produced. This confusion in the use of names is more serious, for there exist no means by which we may show or express the relationship of one name in respect to all other names that may be used in the industry. There is obviously a certain relationship between all papers made and therefore all trade names used. The establishment of such a relationship would overcome much of this name confusion that now exists and would give to the industry a common language, easily understood and easily applied to many of our every day problems.

The following is a plan by which this relationship between papers may be established. It is based on an attempt to set up a classification of all kinds of papers. This classification is based on a numerical or decimal system which makes it possible to use this classification plan with any of the automatic tabulating machines. Under this plan it is possible for mills producing a wide variety of papers to readily take off sales statistics with automatic machines similar to those used in tabulating the vast amount of data collected by the U. S. Bureau of Census. Every general manager of large paper companies fully appreciates the importance of correctly and promptly prepared sales analysis.

During the World War in 1917, the Pulp and Paper Division of the War Industries Board under the direction of Mr. S. L. Willson set up the first attempt to classify papers into major groups and subdivisions. This resulted in the setting up of eight major groups and subdivisions.

On August 30, 1921, committees were appointed by the American Paper and Pulp Industry to cooperate with the Bureau of Standards in reference to "Classification" and "Definitions" for paper. These committees reported late in 1922 and set up ten major groups of papers with their subdivisions as set forth in the book entitled "Classification and Definitions of Papers," published in 1924 by Lockwood Trade Journal Company, Inc.

Since then the U. S. Bureau of Census has set up its own paper classification into fourteen groups and is compiling statistics on that basis.

The committees on Classification and Definitions of Papers carried out a very extensive study and devoted a great deal of time to the whole subject. They established certain fundamental principles in their classification plans that must be followed. They outlined a classification plan, but did not have sufficient time to carry out their plan and set up a complete series of classification numbers for all of the hundreds of names listed in their report.

The following report is a continuation of the work of the Committee on Paper Classification in that each paper has been studied and given a numerical classification number. In this study it has been found necessary to make a few minor changes in the subdivisions set up by the Paper Classification Committee, but throughout this work there has been a strict adherence to the principle they set up, namely that a classification plan must be based upon "Methods of Manufacture" and not upon uses or qualities.

The following tabulation shows the several classification plans suggested above and the numbers opposite show where each group in each of the suggested plans is covered in the classification plan upon which this report is based.

War Industries Board—1917	Report of Paper Classification Committee—1921	Classification Used by U. S. Bureau of Census	Classification Used in Ths Report
0—Boards	9—Absorbent	5—News	0—Boards
3—Building	0—Boards	5—Hanging	1—Book Printing
9—Blotting	3—Building	5—Poster	2—Bristol
1—Book	2—Cardboard	1—Book	3—Building
5—News	4—Cover	4—Cover	4—Cover
6—Tissue	5—News	8—Writing	5—News
7—Wrapping	1—Printing	7—Wrapping	6—Tissue
8—Writing	6—Tissue	7—Bag	7—Wrapping
	7—Wrapping	2—Tag Board	8—Writing
	8—Writing	0—Boards	9—Industrial
		6—Tissue	
		9—Blotting	
		3—Building	
		All others	

In the classification set forth here, all papers have been divided into ten major groups called Types; each Type is divided into ten subdivisions, where necessary, called Classes, and each Class may be further subdivided into ten subdivisions called Kind. The chart on pages 2 and 3 will show this division into Type, Class and Kind.

With this chart it is possible by the use of three numerals to designate every paper now produced as to type, class and kind, no attempt being made to include quality, color, finish, etc. In this plan the first numeral (in hundreds place) indicates the Type, the second numeral (in tens place) shows the subdivision under Class and the third (in units place) shows the subdivision under Kind.

For example, 010 is Type 0-Board, Class 1—Box or Chip, Kind 0-Plain or Solid, therefore:

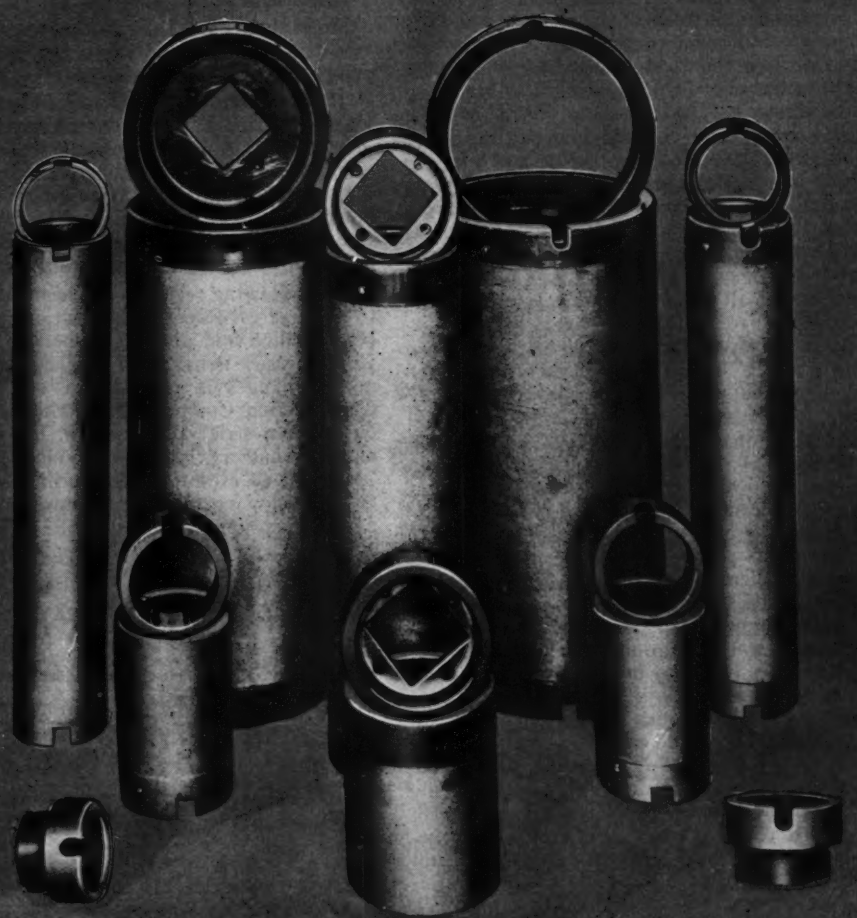
Plain box or chip board..... is 010
Double-faced or lined chip..... is 012
One side patent-coated..... is 061
M. F. book paper..... is 120

Received February 1, 1934.

[1] Presented at the joint meeting of the American Paper and Pulp Association and the Technical Association of the Pulp and Paper Industry, New York, N. Y., February 19 to 22, 1934.

[1] Member TAPPI, vice-president, Skinner & Sherman, Inc., Boston, Mass., and general chairman, TAPPI Operating Division.

ELIXMAN



Straight wound paper cores made in sizes from 2" to 10" inside diameter with any thickness wall required.

Long draw protected slot caps of heavy gauge steel in all sizes.

Heavy duty caps with reenforced square hole. This new patented feature of reenforcement gives added strength and durability.

Samples of caps or cores will be gladly submitted.

ELIXMAN PAPER CORE COMPANY, INC.

CORINTH, N. Y.

Paper Classification Chart

TYPE	CLASS	KIND
0—BOARDS	0—Album or illustration	0—Plain or solid
	1—Box and chip	1—Faced single
	2—Card middles	2—Faced double
	3—Counter	3—Built up with corrugated and uncorrugated sections
	4—Leather	4—Clay-coated
	5—Manila	5—Pasted
	6—Patent coated	6—Molded
	7—Press	7—Treated
	8—Straw or semi-chemical	8—Wet machine
	9—Trunk	9—Corrugated or indented
1—BOOK PRINTING	0—Base for coating, gumming or pasting	0—Plain
	1—Bible	1—Tub-sized and machine-dried
	2—Book	2—Tub-sized and air or loft-dried
	3—Clay-coated, 1 side	3—Special coatings
	4—Clay-coated, 2 sides	4—Metallic coatings
	5—Mimeograph	5—Gummed
	6—Music	6—Varnished coat
	7—Offset	7—Pasted to cloth
	8—Photogravure	8—Gummed and varnished
	9—Text	9—
2—BRISTOL	0—Index	0—Plain or machine-dried
	1—Mill	1—Tub-sized and machine-dried
	2—Playing card	2—Tub-sized and air or loft-dried
	3—Rope	3—Pasted in rolls or sheets
	4—Wedding	4—
	5—	5—Special clay coat after pasting in rolls
	6—	6—Clay coated
	7—	7—Waxed or oiled
	8—	8—Handmade
	9—Special vellum	9—
3—BUILDING	0—Asbestos	0—Plain or solid
	1—Felts	1—Pasted
	2—Gypsum or plaster board	2—Coated
	3—Wallboard	3—Saturated
	4—Sheathing	4—Saturated and backed (coated 1 side)
	5—	5—Padded product with paper 1 or 2 sides
	6—	6—Paper surfaced 1 or 2 sides
	7—	7—Surface colored
	8—	8—Molded
	9—	9—Indented
4—COVER	0—Box	0—Plain or untreated
	1—Facing	1—Duplex
	2—Manuscript	2—Surface-colored
	3—Pamphlet	3—Faced 1 side
	4—Photographic	4—Faced 2 sides
	5—Photomount	5—Coated 1 side
	6—Special coating cover	6—Coated 2 sides
	7—	7—Pasted with or without cloth
	8—	8—
	9—	9—

(Continued on page 75)

QUALITY IN FELTS

ASK your machine operators which felt gives them the most dependable service? Ask them which felt gives the longest service and the most satisfactory results?

Waterbury Felt Company Felts are generally the first choice of experienced operators.

You can have Waterbury Felt Company Endless Felts up to 100 feet in length.

The Waterbury Felt Co.

SKANEATELES FALLS, N. Y.

Paper Classification Chart *(Continued)*

TYPE	CLASS	KIND
5—NEWS	0—Ground wood specialties	0—Plain
	1—Hanging	1—Coated
	2—News	2—Surface-colored
	3—	3—
	4—	4—
	5—	5—Gummed
	6—	6—
	7—	7—
	8—	8—
	9—	9—
6—TISSUE	0—Carbon	0—Plain or single
	1—Cigarette	1—Creped
	2—Condenser	2—Waxed
	3—Copying	3—Coated
	4—Pattern	4—Oil impregnated
	5—Stereotype	5—
	6—Textile and twisting	6—
	7—Toilet	7—
	8—Toweling	8—
	9—Wrapping and anti-tarnish	9—Embossed
7—WRAPPING	0—Bogus manila and mill wrapper	0—Plain or single
	1—Cartridge	1—Machine-glazed
	2—Glassine	2—Calender colored 1 or 2 sides
	3—Kraft	3—Duplex
	4—Rope wrapping	4—Waxed
	5—Straw or semi-chemical	5—Gummed
	6—Vegetable parchment base	6—Clay-coated
	7—Waxing base	7—Plied with asphalt with or without cloth
	8—Wood manila	8—Coated, impregnated, or treated chemically
	9—	9—Creped, corrugated, embossed, or indented
8—WRITING	0—Bond	0—Plain or machine-dried
	1—Chart or map	1—Tub-sized and machine-dried
	2—Drawing	2—Tub-sized and barber, slat, festoon, or loft-dried
	3—Envelope	3—Pasted from rolls or sheets
	4—Fines, flats and linens	4—Clay-coated
	5—Ledger	5—Gummed
	6—Manifold	6—Chemically treated
	7—Papeterie and wedding	7—Cloth-lined
	8—Parchment deed	8—Handmade
	9—Safety	9—
9—INDUSTRIAL	0—Absorbent process	0—Plain or untreated
	1—Calender and embossing rolls	1—Chemically treated
	2—Chemical processes	2—Chemically treated and impregnated
	3—Electrical processes	3—Clay-coated
	4—Molded products	4—Impregnated
	5—Printing processes (not printed)	5—Creped
	6—Sensitizing processes	6—Special coating
	7—	7—Surface-sized
	8—	8—Pasted to special material
	9—	9—Embossed

TAPPI Section, Page 90

LOCKWOOD'S DIRECTORY

OF THE PAPER AND ALLIED TRADES

F O R 1 9 3 4

A complete, up-to-date reference book of the paper industry, for the busy executive who must have reliable information at his finger tips.

Entire contents classified under separate headings for the United States and Canada, alphabetically and geographically arranged by states.

CONTENTS

City Address of Mills and Mill Supply Houses
Classified List of Paper Mill Products, Canada
Classified List of Paper Mill Products, United States
Classified List of Pulp Mill Products, Canada
Classified List of Pulp Mill Products, United States
Coated Paper Manufacturers

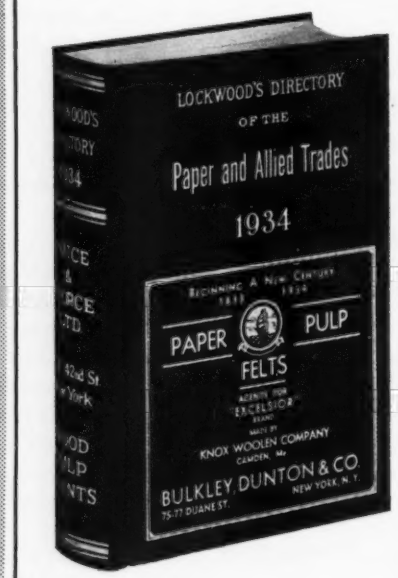
Envelope Manufacturers

Glazed and Coated Paper Manufacturers

Idle Mills
Index to Mills

Machinery and Equipment Manufacturers
Mill Officials

Pad Manufacturers
Paper Merchants, Canada
Paper Merchants, United States
Paper Stock and Rag Dealers
Paper Bag Manufacturers
Paper Box Manufacturers



CONTENTS

Paper and Pulp Mills in Canada
Paper and Pulp Mills in United States
Paper and Pulp Mills in Cuba, Mexico and South America
Paper Specialties
Papeterie Manufacturers
Prepared Roofing Paper Manufacturers
Pulp Testing Chemists
Purchasing Agents

Rags and Paper Stock Consumed by the Mills

Statistical Table of Mills

Tablet Manufacturers
Tag Manufacturers
Toilet Paper Manufacturers
Trade Associations
Twine Manufacturers in United States and Canada

Vegetable Parchment Paper Manufacturers

Wall Paper Printers
Watermarks and Brands
Waxed Paper Manufacturers
Wood Pulp Importers

SPECIAL TRAVELERS' EDITION—A limited number of copies, pocket size, for use of traveling men, taking in the Mill Section, which comprises the Paper and Pulp Mills, the Coating Mills and the Mill Officials. These copies are bound in thin leather covers.
Price $7.50, including delivery charges ($7.00 cash with order).

Simply cut out the coupon below, pin your check or money order thereto, and your copy will be delivered to you shipping charges prepaid.

LOCKWOOD TRADE JOURNAL CO., Inc.
15 West 47th Street, New York, N. Y.

Send, delivery charges prepaid, a copy of the 1934 (59th) Annual Edition of Lockwood's Directory of the Paper and Allied Trades. Price $7.50 ($7.00 cash with order).

Check which edition you want:

☐ Regular Edition. Name .....

☐ Travelers' Edition. Address .....

..... 193 .....

Label paper, coated and varnished on one side and gummed on the other side..... is 138
Facing papers for pasting on to card middles..... is 410
Card middles ..... is 020
The above two pasted together..... is 403
Gummed glassine paper..... is 725
High grade bond paper..... is 802
Ordinary blotting paper..... is 900

The above illustrations show the use of this classification plan. Turning back now to the opening statement contained herein was a reference to Beaming Paper. This Classification plan shows:

730—Beaming Paper, also 731, 733, 780, 781, 783

This means that Beaming Paper may be regular kraft wrapping or any of the following as may be required by the Textile Mill.

731—Machine-glazed kraft
733—Duplex kraft
780—Wood manila
781—Machine-glazed wood manila
783—Duplex wood manila

The remainder of this report is divided into two parts, one part includes the ten Major Type groups with a list of all papers that may be classified under each. This is a numerical listing so that all names that represent the same basic paper will be found grouped under the same numerical group. This also shows every possible cross-indexing. The second part of this report is an alphabetical finding list showing all names alphabetically arraigned with numbers showing where each paper may be found.

In this study no attempt has been made to designate "quality" of product, color, finish, formation, watermark, brand, etc. etc. That for the present is left for the individual mill to consider. This plan, however, makes it possible to add these other requirements. These additional paper characteristics might easily be added, as follows:

Finish—There are less than 40 terms used to designate regular finishes and no one paper uses more than 10 of these terms, so that numerals 0 to 9 inclusive could represent finishes.

Weights—Would require two numerals, for some papers have more than ten basic weights.

Quality or Grade could probably be confined to ten, as, for example, no manufacturer would make more than ten grades of "bond" papers.

Watermark and Brand would probably require three numerals, and other desired characteristics set up as desired.

The following numbers might indicate such a plan as outlined above.

122—1—105—025

Such a number would be interpreted as follows:—

A book paper, tub-sized and air or loft-dried, of No. 1 quality (this would include a detail specification set up by each manufacturer for his own requirements), antique finish, weight 25x38, 50/500 with dandy roll No. 025 used. Such a set of numbers are easily red and may readily be punched on tabulating machine for sales and production records.

Type	Class	Kind		Quality		Finish	Weight			Watermark		
1	2	2	—	1	—	1	0	5	—	0	2	5

The following part includes the numerical classification list and this is followed by the alphabetical classification list.

Type 0—Boards

(Numbers 000 to 098 inclusive)

BOARDS: This term applies to a large and important group of coarse heavy papers, made principally from old waste papers, and largely used as a substitute for lumber. Boards are also characterized by a high degree of rigidity and stiffness and generally they are heavier than other kinds of paper. The great expansion in variety and kinds of Boards is due largely to the demand for low cost containers for food products and general merchandise. Boards are principally made on a multi-cylinder paper machine, a few kinds are made on a wet machine and only a very small per cent are made on a fourdrinier machine.

Boards are one of our most important products of the paper industry. It is made from old waste paper, pulp mill screenings, mechanical pulp and unbleached chemical pulp. It may be "lined", "faced", "coated", "surface colored" or "surface pasted" as well as given special impregnations all to adopt it for its ultimate use. It may also be made from scrap leather, in which case it becomes Leather Board and is then sold to shoe makers, who use it in certain parts of our shoes.

There are ten major subdivisions or Classes of Boards, as follows:

Album or Illustration Board	Manila
Box and Chip	Patent-Coated
Card Middles	Press
Counter	Straw or Semi-Chemical
Leather	Trunk

Each Class may be subdivided into ten groups called Kind, as follows:

Plain or Solid	Pasted
Faced Single	Molded
Faced Double	Treated
Built up with Corrugated and Uncorrugated Sections	Wet Machine
Clay-Coated	Corrugated or Indented

The following portion of the main chart will show this in detail.

0—BOARDS	0—Album or Illustration	0—Plain or Solid
	1—Box of Chip	1—Faced Single
	2—Card Middles	2—Faced Double
	3—Counter	3—Built up with Corrugated or Uncorrugated
	4—Leather	4—Clay-Coated
	5—Manila	5—Pasted
	6—Patent-Coated	6—Molded
	7—Press	7—Treated
	8—Straw or Semi-Chemical	8—Wet Machine
	9—Trunk	9—Corrugated or Indented

The tabulation below will show the principle combinations of the above group.

PRINCIPAL COMBINATIONS OF THE BOARD GROUP

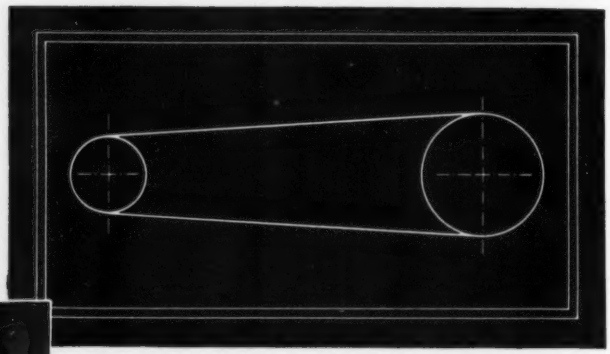
0 BOARDS	0 Plain or Solid	1 Faced Single	2 Faced Double	3 Built up with Corrugated and Uncorrugated	4 Clay Coated	5 Pasted	6 Molded	7 Treated	8 Wet Machine	9 Corrugated or Indented
00 Album or Illustration Board	000	001	002	...	...	005	...	...	...	...
01 Box and Clips	010	011	012	013	014	015	016	017	018	019
02 Card Middles	020	021	022	...	024	025	026	...	...	...
03 Counter	030	...	...	...	...	...	...	037	038	...
04 Leather	040	...	...	...	...	...	...	047	048	...
05 Manila	050	051	052	...	054	055	056	057	058	059
06 Patent Coated	...	061	062	...	064	...	...	...	...	...
07 Press	070	...	072	...	074	075	...	077	078	...
08 Straw or Semi-Chemical	080	081	082	083	...	...	...	...	...	089
09 Trunk	090	091	092	...	...	...	096	097	098	...

CUTS HIS BELT COST 50%

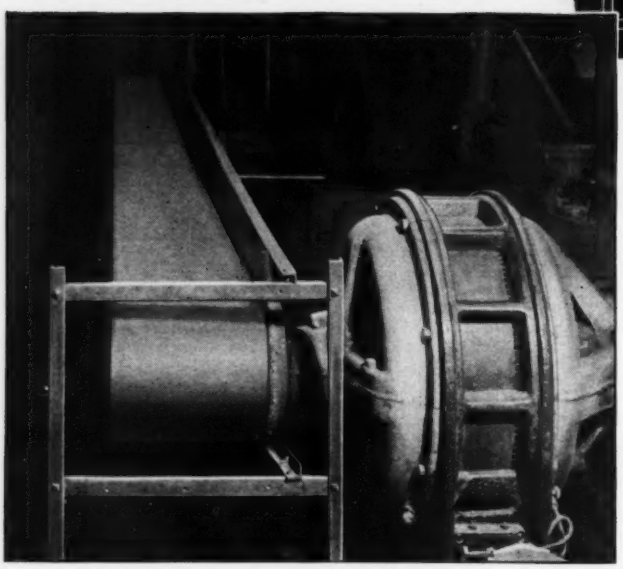
Had lost 1 or 2 hours out of 24 splicing or repairing other belts

G.T.M. SAYS "THOR"

And now 24 hours every day this mill gets 3 to 4 years service from Goodyear THOR-belted beater drive



On this belt-eating drive the Goodyear G.T.M.-specified endless THOR *Belt did 50% better*



Goodyear THOR*-equipped Beater Drive at plant of American Asphalt Roof Corporation, East St. Louis, Ill.*

Whatever you manufacture, it isn't likely that in all your plant you have a tougher belt drive than this paper-mill beater.

But the principle of money-making by way of better belt service — longer lived and trouble-free — is just the same in your case.

Here is a manufacturer who had been using all kinds of belts. His machines had to run 24 hours a day. But the belt failures cost him one or two money hours out of every 24.

HE CALLED IN THE GTM

A friendly expert on rubber and a practical man on belting came to his plant. Studied operating conditions. Measured drives. Recommended a 16-inch 8-ply endless Goodyear THOR Belt for this particular duty.

What does the user himself report?

"We have lost no time whatever and our machine runs continually 24 hours a day. This is a big saving in production... A paper mill has very hard service on belts and we are getting from three to four years out of beater drives. I can recommend the use of THOR Belts on all beater and Jordan drives . . ." J. P. Furlong, American Asphalt Roof Corporation, East St. Louis, Ill.

Are you interested in that kind of equipment for your plant? The G.T.M. — Goodyear Technical Man — is ready and qualified to call and discuss your requirements with you. Write to Goodyear, Akron, Ohio, or Los Angeles, California, or call nearest Goodyear Mechanical Rubber Goods Distributor.

BELTS • MOLDED GOODS
HOSE • PACKING
Made by the Makers of GOODYEAR TIRES

THE GREATEST NAME IN RUBBER

GOODYEAR

The following alphabetical list has been arranged by groups, in which each group applies to one Kind of paper, though it may be known in the trade by a large number of names:

00

000—Album Board
also 001 002, 005
000—Artists Illustration Board
also 001, 002, 005
000—Illustration Board
also 001, 002, 005

001—Album Board
also 000, 002, 005
001—Artists Illustration Board
also 000, 002, 005
000—Illustration Board
also 000, 002, 005

002—Album Board
also 000, 001, 005
002—Artists Illustration Board
also 000, 001, 005
002—Illustration Board
also 000, 001, 005

005—Album Board
also 000, 001, 002
005—Artists Illustration Board
also 000, 001, 002
005—Illustration Board
also 000, 001, 002

01

010—Backing Board
010—Binder Board
also 018
010—Boxboard
010—Box Layer Board
also 013, 019, 083, 089
010—Button Board
also 011, 012, 050, 051, 052, 058
010—Cake Board
also 050
010—Cake Boxes
also 011, 012, 050, 051, 052
010—Cake Circles
also 050, 780
010—Candle Paper
also 700
010—Canister Paper
also 011, 012
010—Cans, Paper
also 011, 012
010—Cardboard
also 011, 012
010—Carriage Panel
also 017
010—Carton
also 050
010—Chip Board
010—Chip Solid
010—Cloth Board
also 011, 012
010—Combs, Paper
also 070, 900, 920, 921
010—Cones, Paper
also 170, 780, 850
010—Container Board
also 011, 012
010—Cap Tube Board
010—Cracker Shell Board
010—Dishes, Paper
010—Dolls, Paper
also 011, 012
010—Egg Cartons
also 016
010—Folding Boxboard
also 011, 012
010—Fiber Shipping Container
also 011, 012, 013
010—Food Containers
also 011, 012, 050, 051, 052
010—Kraft Board
also 011, 012
010—Laundry Boards
also 011
010—Layer Board
also 050
010—Layer Cards
also 050
010—News Board
also 011, 012
010—Non-Test Chip Board
also 011, 012
010—Paper Stock Board
also 011, 012
010—Pasteboard
also 011, 012
010—Plain Chipboard
010—Pulpboard
010—Pulp Circles
010—Ribbon Blocks
also 080
010—Shipping Cases, Paper
also 011, 012
010—Shirt protectors
also 011
010—Solid Board
also 050
010—Solid Cardboard
also 050
010—Tablet Board
010—Tack Board
010—Trays, Paper
also 016, 020, 026, 940

011—Bleached Manila Lined Chip Board
also 012
011—Button Board
also 010, 012, 050, 051, 052, 058
011—Cake Boxes
also 010, 012, 050, 051, 052
011—Canister, Paper
also 010, 012
011—Cardboard
also 010, 012
011—Cans, Paper
also 010, 012
011—Chip, Filled
also 012
011—Chocolate Dividers
also 012
011—Chocolate Layer Board
also 012
011—Cigar Boxes
also 012
011—Cigar Holders
also 012
011—Cloth Board
also 010, 012
011—Clothing Box Board
also 012
011—Combination Board
also 012, 014, 051, 052, 054, 061, 062, 064
011—Combination Boxboard
also 012, 014, 051, 052, 054, 061, 062, 064
011—Combination Cardboard
also 012, 014, 051, 052, 054, 061, 062, 064
011—Container Board
also 010, 012
011—Container Liner
also 012
011—Dolls, Paper
also 010, 012
011—Duplex Board
also 012
011—Filled Jute Board
also 012
011—Filled News Board
also 012
011—Filled Pulp Board
also 012
011—Fiber Shipping Containers
also 010, 012, 013
011—Filled Wood Pulp Board
also 012
011—Food Containers
also 010, 012, 050, 051, 052
011—Grained Jute Board
also 012
011—Imitation Jute Board
also 012
011—Jute Board
also 012
011—Jute Imitations
also 012
011—Jute Lined Chipboard
also 012
011—Jute Liners
also 012
011—Kraft Board
also 010, 012
011—Laundry Board
also 010
011—Mill Lined Board
also 012
011—News Board
also 010, 012
011—Non-Test Chip Board
also 010, 012
011—News Vat-lined Chipboard
also 012
011—Paper Stock Board
also 010, 012
011—Patent-Coated Newsback
011—Patent Coated Newsboard
also 012
011—Patent Coated White Lined Board
011—Poster Board
also 012
011—Railroad Board
also 012, 014
011—Railroad Cardboard
also 012, 014
011—Sheet-lined Chipboard
011—Shipping Case, Paper
also 010, 012
011—Shirt Protectors
also 010
011—Single Manila Lined Board
011—Single Manila Lined Newsboard
011—Single News Vat-lined Chipboard
011—Single White Vat-lined Chipboard
011—Test Board
011—Test Chipboard
011—Test Jute Board
011—Textile Spools, Paper
011—Ticket Board
011—Tire Containers
011—Vat-lined Chipboard
also 012
011—Wad Paper

012—Bleached Manila Lined Chipboard
also 011
012—Button Board
also 010, 011 050, 051, 052, 058
012—Cake Boxes
also 010, 011, 050, 051, 052
012—Canister Paper
also 010, 011
012—Cardboard
also 010, 011
012—Cans, Paper
also 010, 011
012—Chip Filled
also 011
012—Chocolate Dividers
also 011
012—Chocolate Layer Board
also 011
012—Cigar Boxes
also 011
012—Cigar Holders
also 011
012—Cloth Board
also 010, 011
012—Clothing Box Boards
also 011
012—Combination Board
also 011, 014, 051, 052, 054, 061, 062, 064
012—Combination Boxboard
also 011, 014, 051, 052, 054, 061, 062, 064
012—Combination Cardboard
also 011, 014, 051, 052, 054, 061, 062, 064
012—Container Board
also 010, 011
012—Container Liner
also 011
012—Dolls, Paper
also 010, 011
012—Double Manila Lined Chipboard
012—Double Manila Lined Newsboard
012—Duplex Board
012—Filler Board
also 011, 051, 052
012—Filled Jute Board
also 011
012—Filled Newsboard
also 011
012—Filled Pulp Board
also 011
012—Fiber Shipping Containers
also 010, 011, 013
012—Filled Wood Pulp Board
012—Food Containers
also 010, 011, 050, 051, 052
012—Garment Containers
012—Grained Jute Board
also 011
012—Imitation Jute Board
also 011
012—Jute Board
also 011
012—Jute Imitation
also 011
012—Jute Lined Chipboard
also 011
012—Jute Liners
also 011
012—Kraft Board
also 010, 011
012—Lined Board
also 011
012—Megaphones
also 011, 051, 052
012—Mill Lined Board
also 011
012—Mothbag, Paper
also 730, 739
012—Newsboard
also 010, 011
012—Non-Test Chipboard
also 010, 011
012—News Vat-lined Chipboard
also 011
012—Oak-grained Board
012—Paper Stock Board
also 010, 011
012—Patent Coated Newsboard
also 011
012—Patent Coated Newscenter Manila Backboard
012—Poster Board
also 011
012—Pulp Sales Board
012—Punch Board
012—Railroad Board
also 011, 014
012—Railroad Cardboard
also 011, 014
012—Shipping Cases, Paper
also 010, 011
012—Showcase Board
also 062
012—Sign Board
also 062, 210
012—Ticket Stock
also 200, 210
012—White Divider Board
012—Vat-lined Chipboard
also 011

013—Box and Barrel Layers
also 010, 019, 083, 089
013—Corrugated Container Board
013—Fiber Shipping Containers
also 010, 011, 012
013—Single Faced Corrugated Board

014—Coated Blanks
also 064
014—Coated Cardboard
also 064
014—Combination Board
also 011, 012, 051, 052, 054, 061, 062, 064
014—Combination Boxboard
also 011, 012, 051, 052, 054, 061, 062, 064
014—Combination Cardboard
also 011, 012, 051, 052, 054, 061, 062, 064
014—Railroad Board
also 011, 012
014—Railroad Cardboard
also 011, 012
014—Thick China Board

015—Check Book Cover
015—Cap Tubes
also 016
015—Letter Files, Paper
015—Pasted Chipboard
015—Picture Backing Board

016—Cap Tubes
016—Sand Pail, Paper
also 940
016—Egg Cartons
also 010
016—Dishes, Paper
also 010, 020, 026

017—Carriage Panel
also 010
017—Tar Board

018—Binder Board
also 010
018—Bottle Packing, Paper
also 089
018—Single Feather Edge Board
018—Slate, Paper

019—Box and Barrel Layer Board
019—Corrugated Board
019—Indented Paper

02

020—Beer Plaques
also 025, 026
020—Card Middles
020—Dishes, Paper
also 010, 016, 026
020—Jar Tops, Paper
also 210
020—Middles

021—Lined Paper Plates
also 022

022—Ivory Board
022—Lined Paper Plates
also 021
022—Plain Blanks
022—Silk Board

024—Litho Blanks

025—Beer Plaques
also 020, 026
025—Mounting Board
025—Pasted Blanks
also 213
025—Pasted Board
025—Waste Baskets, Paper
also 055

026—Beer Plaques
also 020, 025
026—Dishes, Paper
also 010, 016, 020
026—Trays, Paper
also 010, 020, 940

03

030—Counter Board
030—Fender Board
030—Fiber Board
also 070, 922
030—Fiber Panel
also 070, 921
030—Heeling Board
030—Innersole Board
030—Shank Board
030—Shoe Board
030—Shoe Counters
030—Tapping Board
also 040

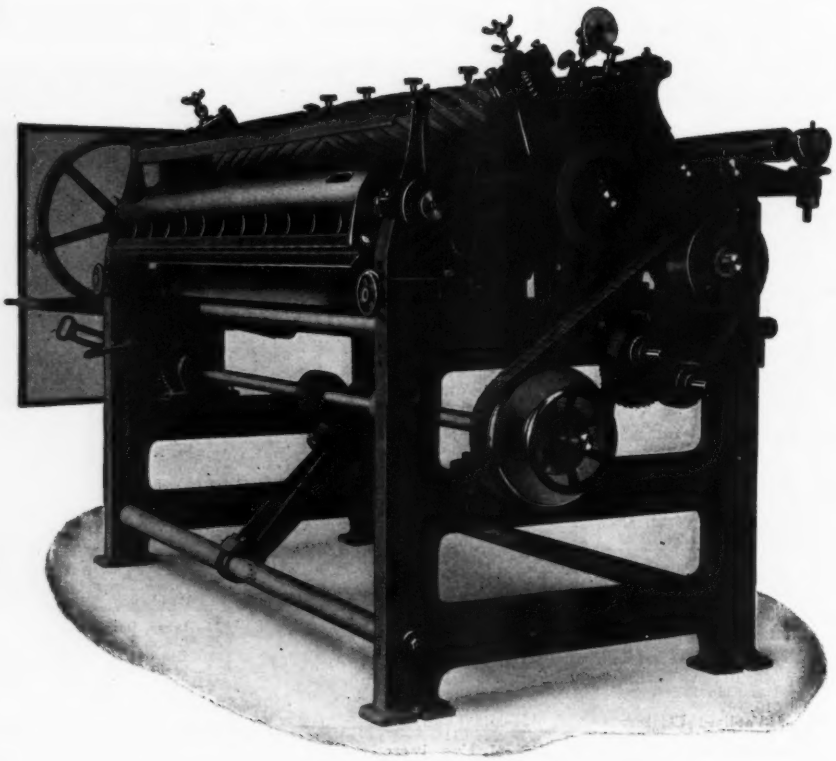
TAPPI Section, Page 92

HAMBLET ROTARY PAPER CUTTERS

ARE IN USE

IN MORE THAN FIVE HUNDRED MILLS

THERE'S A REASON!



WE MAKE
Single and
Duplex Cutters

Automatic
Lay-Boys
For Single and
Duplex Cutters

ROLL STANDS
For Any Number
of Rolls

ROLLER BEARING CUTTER

Write for Full Information

HAMBLET MACHINE COMPANY

LAWRENCE, MASS.

04

040—Fiber Leather Board
040—Gasket Stock
also 748, 921
040—Imitation Leather
040—Leather, Artificial
040—Leather Board
040—Tapping Board
also 030

05

050—Berry Boxes
also 056, 057
050—Berry Pails
also 056, 057
050—Blanks
also 051, 052, 061, 062, 064, 210
050—Bottle Caps
also 051
050—Bottles, Paper
also 056
050—Button Board
also 010, 011, 012, 051, 052, 058
050—Butter Cartons
also 051, 052
050—Butter Dishes
also 051, 052
050—Cake Board
also 010
050—Cake Boxes
also 010, 011, 012, 051, 052
050—Cake Circles
also 010, 780
050—Candy Pails
also 051, 052
050—Caps, Milk Bottle
also 051
050—Carton
also 010
050—Food Containers
also 010, 011, 012, 051, 052
050—Ice-Cream Boxes
also 051, 052
050—Ice-Cream Dishes
also 051, 052
050—Layer Board
also 010
050—Layer Cards
also 010
050—Milk Bottle Caps
050—Oyster Containers
also 210
050—Pails, Paper
also 056, 942
050—Sanitary Containers
050—Sanitary Eating Dishes
also 056
050—Solid Boards
also 010
050—Solid Cardboard
also 010
050—Solid Jute Board
050—Sulphite Board
050—Visor Board
050—Woodpulp Board

051—Blanks
also 050, 052, 060, 061, 062, 064, 210
051—Bottle Caps
also 050
051—Button Board
also 010, 011, 012, 051, 052, 058
051—Butter Cartons
also 050, 052
051—Butter Dishes
also 050, 052
051—Cake Boxes
also 010, 011, 012, 051, 052
051—Candy Pails
also 050, 052
051—Caps, Milk Bottle
051—Combination Board
also 011, 012, 014, 052, 054, 061, 062, 064
051—Combination Boxboard
also 011, 012, 014, 051, 052, 054, 061, 062, 064
051—Combination Cardboard
also 011, 012, 014, 051, 052, 054, 061, 062, 064
051—Cuspidors, Paper
also 052, 056
051—Filler Board
also 011, 012, 052
051—Food Containers
also 010, 011, 012, 050, 052
051—Ice-Cream Boxes
also 050, 052
051—Ice-Cream Dishes
also 050, 052
051—Patent-Coated Manila Board
also 052
051—Patent-Coated Solid Manila
051—Plates, Paper
also 056

052—Blanks
also 050, 051, 061, 062, 064, 210
052—Button Boards
also 010, 011, 012, 050, 051, 058
052—Butter Cartons
also 050, 051
052—Butter Dishes
also 050, 051
052—Cake Boxes
also 010, 011, 012, 050, 051
052—Candy Pails
also 050, 051
052—Combination Board
also 011, 012, 014, 051, 054, 061, 062, 064
052—Combination Boxboard
also 011, 012, 014, 051, 054, 061, 062, 064
052—Combination Cardboard
also 011, 012, 014, 051, 054, 061, 062, 064
052—Cuspidors, Paper
also 051, 056
052—Food Containers
also 010, 011, 012, 050, 051
052—Ice-Cream Boxes
also 050, 051
052—Ice-Cream Dishes
also 050, 051
052—Patent-Coated Manila Board
also 051
052—Sample Cards
also 210

054—Clay-Coated Manila Board
054—Combination Board
also 011, 012, 014, 051, 052, 061, 062, 064
054—Combination Boxboard
also 011, 012, 014, 051, 052, 061, 062, 064
054—Combination Cardboard
also 011, 012, 014, 051, 052, 061, 062, 064

055—Waste Baskets, Paper
also 025

056—Berry Boxes
also 050, 057
056—Berry Pails
also 050, 057
056—Bottles, Paper
also 050
056—Cuspidors, Paper
also 051, 052
056—Pails, Paper
also 050, 942
056—Plates, Paper
also 051
056—Sanitary Eating Dishes
also 050

057—Berry Boxes
also 050, 056
057—Berry Pails
also 050, 056
057—Oiled Board

058—Butter Board
also 010, 011, 012, 050, 051, 052
058—Suit Board
058—Suit Boxboard
058—Suitcase Board

06

061—Blanks
also 050, 051, 052, 062, 064, 210
061—Combination Board
also 011, 012, 014, 051, 052, 054, 062, 064
061—Combination Boxboard
also 011, 012, 014, 051, 052, 054, 062, 064
061—Combination Cardboard
also 011, 012, 014, 051, 052, 054, 062, 064
061—Easel Board
also 062
061—China Board
also 062
061—Patent-Coated Board
also 062
061—Patent-Coated Boxboard
also 062

062—Blanks
also 050, 051, 052, 061, 064, 210
062—China Board
also 061
062—Combination Board
also 011, 012, 014, 051, 052, 054, 061, 064
062—Combination Boxboard
also 011, 012, 014, 051, 052, 054, 061, 064
062—Combination Cardboard
also 011, 012, 014, 051, 052, 054, 061, 064
062—Easel Board
also 061
062—Menu Board
also 210
062—Patent-Coated Board
also 061
062—Patent-Coated Boxboard
also 061
062—Pin Tickets
also 210
062—Showcard Board
also 012
062—Sign Board
also 012, 210

064—Blanks
also 050, 051, 052, 061, 062, 210
064—Car Sign
064—Coated Blanks
064—Coated Boxboard
also 014
064—Combination Board
also 011, 012, 014, 051, 052, 054, 061, 062
064—Combination Boxboard
also 011, 012, 014, 051, 052, 054, 061, 062
064—Combination Cardboard
also 011, 012, 014, 051, 052, 054, 061, 062
064—Litho Blanks
also 024

07

070—Combs, Paper
also 010, 900, 901, 920, 921
070—Dobby Board
070—Fiber Board
also 030, 922
070—Fiber Panels
also 030, 921
070—Folders, Pressboard
070—Friction Board
070—Fuller Board
070—Plater Board
070—Pressboard
also 075, 078
070—Pulley Board
070—Spoons, Paper
also 780, 941
070—Stencil Paper
also 210, 230
070—Templet Board
070—Washers, Paper

072—Game Counters
also 074, 210

074—Game Counters
also 072, 210

075—Press Board
also 070, 078

077—Seat Board
077—Semi-Vulcanized Board

078—Pressboard
also 070, 075

08

080—Bottle Wrapping Paper
also 010, 019, 089, 690, 790
080—Double Feather Edge Strawboard
080—Egg Case Filler Board
also 089
080—Egg Trays
also 083, 089
080—Jacquard Board
080—Jacquard Cards
080—Jacquards
080—Nine Point Strawboard
080—Nine Point Semi-Chemical
080—Plain Strawboard
080—Ribbon Blocks
also 010
080—Strawboard
080—Strawboard Nine Point
080—Strawboard Semi-Chemical
080—Semi-Chemical Corrugating

081—Jute-Lined Strawboard
also 082
081—Sheet-Lined Strawboard
also 082
081—Vat-Lined Strawboard
also 082
081—White News Mill-lined Strawboard
also 082

082—Jute-Lined Strawboard
also 081
082—Sheet-Lined Strawboard
also 081
082—Vat-Lined Strawboard
also 081
082—White News Mill Lined Strawboard
also 081

083—Box and Barrel Layers
also 010, 013, 019, 089
083—Cellular Board
083—Egg Carriers
also 016, 089
083—Egg Trays
also 080, 089
083—Laminated Strawboard

089—Bottle Packing Paper
also 019
089—Bottle Wrapping Paper
also 010, 019, 080, 690, 790
089—Box and Barrel Layers
also 010, 013, 019, 083
089—Corrugated Board
089—Egg Carriers
also 016, 083
089—Egg Case Filler Board
also 080
089—Egg Trays
also 080, 083

09

090—Buggy Board
also 098
090—Chair Seat Board
also 098
090—Portmanteaux Board
also 091, 092, 098
090—Trunk Board
also 098
090—Wagon Board
also 098

091—Portmanteaux Board
also 090, 092, 098

092—Portmanteaux Board
also 090, 091, 098
092—Target Board

098—Buggy Board
also 090
098—Chair Seat Board
also 090
098—Portmanteaux Board
also 090, 091, 092
098—Trunk Board
also 090
098—Wagon Board
also 090

Type 1—Book Printing Papers

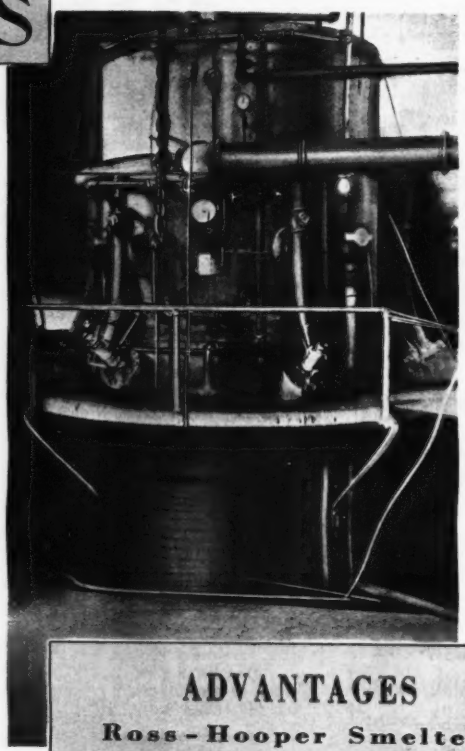
(Numbers 100 to 192 inclusive)

BOOK PRINTING PAPERS: This term is applied to that group of papers, principally used for printing purposes where the thought is conveyed by the printed word, design, illustration or picture. This group is fairly definite as to many of its characteristics, but may vary widely in general appearance, in order to meet the demand for a product suitable for a wide variety of printing processes.

Most of the names that apply to the papers in this group are indicative of some form of printing process, though there are a few exceptions where printing papers have found a ready use unrelated to the printing industry, in which case the name applied, generally relates to or is descriptive of this new use. For example, a High Machine Finish Book Paper also finds a ready sale as Shelf Paper when cut out with lacey or scalloped edges for use on the kitchen shelf. The same paper may be slit and wound into narrow rolls and be sold to the trade as Barber's Head Rest Paper. These few exceptions may be readily noted, and illustrate

ROSS-HOOPER WATER COOLED Smelter Bodies

ROSS-HOOPER SMELTER IN OPERATION



They are saving money for a growing number of Kraft mills. Why not similar savings for your mill?

The most remarkable thing about the development of these units is the fact that every mill which has put one of these modern smelter bodies into operation has proceeded at once to obtain additional units. Surely this is significant.

The RECORD looks like this:—

a British Columbia Mill — 4 Units
Mill Completely Equipped.

a Pacific Coast Mill — 3 Units
Mill Completely Equipped.

a Quebec Mill — 2 Units
Carrying Full Capacity on Ross-Hooper Units Although 3 Other Units Are Available.

a Mid-Western Mill — 1 Unit
Now in Operation—A Second Unit Has Been Ordered.

an Ontario Mill — 1 Unit
Now Under Construction.

ADVANTAGES
Ross-Hooper Smelters

1. Saving in refractory costs.
2. Elimination of shut-downs for patching and relining smelter.
3. Production of hot water at 200° F.
4. No spalling of lining—a clean bottom and better operation.
5. Improved working conditions.

A line to one of our offices will bring you the story of this development and a call from one of our Recovery men. No obligation—of course.

J. O. ROSS ENGINEERING CORPORATION

201 No. Wells Street
CHICAGO

Main Office—350 Madison Avenue
NEW YORK

2860 N. W. Front Avenue
PORTLAND, ORE.

PRINCIPAL COMBINATIONS OF THE BOOK GROUP

I BOOK	0 Plain	1 Tub-sized and machine dried	2 Tub-sized and air or loft dried	3 Special coating	4 Metallic coating	5 Gummed	6 Varnished	7 Pasted to cloth	8 Gummed and Varnished	9
10 Base for Coating, Gumming or Pasting..	100	...	...	103	104	105	...	107	108	...
11 Bible	110	...	...	...	...	...	...	...	...	...
12 Book	120	121	122	...	...	125	...	...	...	...
13 Claycoated, 1 side	130	...	...	...	134	135	136	137	138	...
14 Claycoated, 2 sides	140	...	...	143	144	145	146	148	...	...
15 Mimeograph	150	...	...	...	...	...	...	...	...	...
16 Music	160	...	...	...	...	...	...	...	...	...
17 Offset	170	171	...	...	...	...	...	...	...	...
18 Photogravure	180	181	182	...	...	...	...	...	...	...
19 Text	190	191	192	...	...	...	...	...	...	...

how a paper developed for a particular use may after find an important use under an entirely unrelated condition.

These are ten major subdivisions or classes of Book Printing Paper as follows:

Base for Coating, Gumming or Pasting
Bible
Book
Clay-Coated (1 side)
Clay-Coated (2 sides)
Mimeograph
Music
Offset
Photogravure
Text

These ten major subdivisions or classes of Paper have certain well defined characteristics, though in each class there may be wide variations from these generally understood characteristics. The following briefly define the more important characteristics.

BASE FOR COATING, GUMMING OR PASTING: Made of bleached chemical pulps with or without de-inked old papers —ground wood pulp and unbleached sulphite may be used in special grades—run slack to medium-sized and low machine finish to high machine finish.

BIBLE: Very light weight, high capacity for its weight, slack sized, medium finish, extremely uniform formation and a very soft feel or texture, used for printing books where a large number of pages must have a minimum of thickness.

BOOK: Made principally of bleached chemical pulps with or without de-inked old papers, run low to medium sizing and from antique to high super finish.

CLAY-COATED PAPERS: May be coated one or two sides and are finished either dull or supered. The finish is dependent upon the coating material used and method and degree of supercalendering given.

MIMEOGRAPH: Made principally of bleached chemical pulps, low to medium sizing and of about egg-shell to low finish. This *class* while primarily a writing paper as to its sheet size and weight, is a special printing paper as it must be suitable for use with a printing ink.

MUSIC: Very similar to book except usually in the higher weight range, the finish is about egg-shell and of medium to low sizing.

OFFSET: Generally somewhat more heavily sized than Book, surface low to medium finish, and made principally of bleached chemical pulps. This *class* of paper may be tub-sized and frequently is in the better grades.

PHOTOGRAVURE: Used laregly for fine illustrating, and the photographic reproductions usually better sized. than Book and generally of low to medium machine finish.

TEXT: Largely used for printing from type, generally of a rough or medium finish and may have a special fine laid mark. The degree of sizing is generally low or antique. Each *class* may be subdivided into groups called kind. Only nine of these ten subdivisions have been used in this classification, leaving one unused for future expansion. These nine subdivisions are as follows:

Plain
Tub-sized and Machine Dried
Tub-sized and Air or Loft Dried
Special Coatings
Metal Coatings
Gummed
Varnished
Pasted to Cloth
Gummed and Varnished

The following portion of the main chart will show this more clearly.

	0—Base for Coating, Gumming or Pasting	0—Plain
1—BOOK PRINTING	1—Bible	1—Tub-sized and Machine dried
	2—Book	2—Tub-sized and Air or Loft dried
	3—Clay-Coated, 1 side	3—Special Coating
	4—Clay-Coated, 2 sides	4—Metallic Coating
	5—Mimeograph	5—Gummed
	6—Music	6—Varnished
	7—Offset	7—Pasted to Cloth
	8—Photogravure	8—Gummed and Varnished
	9—Text	9—

The tabulation above gives the combinations that are in regular use in the Industry. Numbers in the squares show the various combinations. For example, the base paper used for clay coating is 100. This base stock after being coated one side becomes 130, if it is then gummed it is designated 135, and if both gummed and varnished for labels it is designated as 138.

The following names have been taken from the alphabetical list and are arraigned by groups, in which each group carries one kind of paper, though it may be designated by one name or a large number of names.

The following list of names have been arranged and cross indexed under a series of numbers, to show all names of papers that refer to the same basic product. Such a list should be helpful in a study of the subject, of those not entirely familiar with all of the various types, classes and kinds of paper. A grouping of names in this may also serve to show the scope and variety of uses of the many different kinds of paper.

100—Alkali Proof Paper
also 780, 800
100—Base for Coating
100—Base for Gumming
100—Base for Pasting
100—Cigarette Mouthpiece Paper
also 780, 800
100—Coating Paper
100—Computing Machine Paper
also 520, 780, 800
100—Fireworks Paper
100—Lining Paper
also 400, 500
100—Keyboard Paper
also 730, 740, 780, 800
100—Label Paper
also 130, 136, 140, 146
100—Lace Paper Stock
also 800
100—Monotype Keyboard Paper
also 730, 740, 780, 800
100—Printer's Dryproofing Paper
also 120
100—Ribbon Paper
also 800
100—Transfer Paper
also 120
100—Slip Sheets
also 500, 780
100—Soap Wrappers
also 120, 780, 800

103—India Litho Transfer Paper
103—India Proof Paper
103—India Transfer Paper

104—Foil Paper
104—Gold Paper
104—Metalic Paper
104—Tinfoil Paper

105—Adhesive Tape
also 725, 735, 785, 805
105—Gummed Paper
also 805
105—Non-Curling Gummed Paper

107—Cloth Lined Paper
also 134, 432, 738, 815, 827, 857

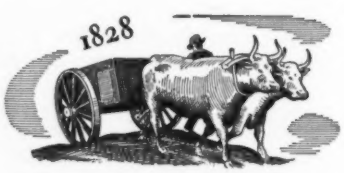
He could seize the MARKET *if* *We* could design the MACHINE

A certain paper manufacturer, after considerable experimentation, found a new mix that gave a desired stock at lowest cost. If a wet machine could be built to handle this stock, he could make a special board, then expensive, at a price ridiculously low.

Given the facts, S & W engineers went to work. They designed a new wet machine that insured correct formation in the vats, and a uniform sheet from the cheaper mix. A specially designed feeder overcame trouble from ordinary calendering equipment, cutting those sheets wrinkled from the drying oven. This loss, often as high as 20%, became less than 1%.

We work directly with you and your engineering consultant to design machines for economically turning out a desired paper. All information is held in strict confidence, and is worked out in secrecy.

To help you get acquainted, a booklet, "Carrying the Torch," has been prepared. It tells of our work in designing and building the three largest Fourdriniers operating in the world today on the finest tissue and condenser papers and the engineering and production facilities available at South Windham. A request on your letterhead will bring your copy.



The CONSULTING ENGINEER *has a Part in the Picture*

★

The SMITH & WINCHESTER

Manufacturing Company

PLANT AND OFFICES AT SOUTH WINDHAM, CONNECTICUT

11

110—Bible Paper
110—Cambridge Bible Paper
110—Oxford Bible Paper

12

120—Adding Machine Paper
also 500, 800, 830
120—Antique Book Paper
also 170, 190
120—Art Cover
also 130, 140
120—Art Paper
also 130, 140
120—Back Lining
also 500, 780, 800
120—Barber's Head Rest Paper
also 520, 680, 681, 800, 830
120—Binders Waste
also 170, 410, 500, 780, 800
120—Book Ends
also 170, 410, 500, 780, 800
120—Book Paper
also 170, 190
120—Bread Labels
also 800
120—Cash Register Paper
also 520, 800
120—Cash Sales Pads
also 500, 800
120—Catalogue Paper
also 130, 140, 190, 500
120—Circulars
also 130, 140, 170, 190, 800
120—Construction Paper
also 500
120—Dental Head Rest
also 520, 680, 681, 800, 830
120—Dodgers
also 500, 520
120—Doilies, Paper
also 800, 830
120—Dry Proofing Paper
120—Eggshell Book Paper
120—Embossing Paper
also 170
120—End Leaf Sheet
also 170, 410, 500, 780, 800
120—End Leaves
also 170, 410, 500, 780, 800
120—English Finnish Book Paper
120—Envelope Stuffer
also 500, 800
120—Esparto Paper
also 830, 840
120—Flyers (Fliers)
also 500, 520
120—Fly Leaf
also 170, 410, 500, 780, 800
120—Geography Paper
also 820
120—Glazed Book Paper
120—Halftone Paper
also 130, 140
120—Impression Paper
120—Insert
also 130, 140, 800
120—Intaglio Paper
120—Lithograph Book Paper
also 130, 140
120—Lithograph Label Paper
also 130, 136, 140, 146
120—Lunch Sets
also 800
120—Machine Finish Book Papers
120—Music Cover
also 170, 430
120—Plate Paper
also 170, 190
120—Poster Paper
also 130, 140, 170, 500
120—Poster
also 130, 140, 170, 500
120—Printers Dry Proofing Paper
120—Program Paper
also 170, 190, 500
120—Rag Plate Paper
120—Rag Printing Paper
120—Rotogravure Papers
120—Salesbook Paper
also 800
120—Second Sheets
also 500, 800
120—Shelf Paper
also 800
120—Sized and Supercalendered
120—Soap Wrappers
also 100, 780, 800
120—Stenotype Paper
also 800
120—Supercalendered Book Paper
120—Tablet Paper
also 500, 520, 780, 800
120—Ticker Paper
also 500, 800
120—Ticker Tapes
also 500, 800
120—Toned Printing
120—Transfer Paper
also 100
120—Western M. F. Book

125—Advertising Stickers
also 135, 136, 138
125—Target Patches
also 505

13

130—Art Cover
also 140
130—Art Paper
also 140
130—Box Enamel
130—Brush Finish Coated Paper
also 140
130—Catalogue Paper
also 120, 140, 190, 500
130—Chromo Papers
130—Cigar Labels
also 136, 138
130—Circulars
also 120, 140, 170, 190, 800
130—Clay Coated, One Side
130—Clay Coated
also 140
130—Coated Printing Paper
also 140
130—Enameled Book Paper
also 140
130—Engravers Proving Papers
130—Folding Coated
also 140
130—Halftone Paper
also 120, 140
130—Insert
also 120, 140, 800
130—Label Paper
also 100, 136, 138, 140, 146
130—Lithograph Book Paper
also 120, 140
130—Lithograph Label Paper
also 120, 136, 140, 146
130—Oneside Coated Printing Paper
130—Poster
also 120, 140, 170, 500
130—Poster Paper
also 120, 140, 170, 500
130—Single Coated Printing Paper

135—Advertising Stickers
also 125, 136, 138

136—Cigar Labels
also 130, 135, 138
136—Varnish Labels
also 138

137—Cloth Lined Paper
also 107, 427, 737, 817, 827, 857

14

140—Art Cover
also 120, 130
140—Art Paper
also 120, 130
140—Brush Finish Coated Papers
also 130
140—Catalogue Paper
also 120, 130, 190, 500
140—Chalk Overlay Paper
140—Chromo Paper
140—Circulars
also 120, 130, 170, 190, 800
140—Clay Coated, Two Sides
140—Coated
also 130
140—Coated Printing Paper
also 130
140—Double Coated Printing Paper
140—Dull Coated Printing Paper
140—Enameled Book Paper
also 130
140—Folding Coated
also 130
140—Halftone Paper
also 120, 130
140—Insert
also 120, 130, 800
140—Label Paper
also 100, 130, 136, 146
140—Lithograph Book Paper
also 120, 130
140—Lithograph Label Paper
also 120, 130, 136, 146
140—Poster
also 120, 130, 170, 500
140—Poster Paper
also 120, 130, 170, 500
140—Two-Sided Coating Printing Paper

143—Chalk Overlay Paper

146—Label Paper
also 100, 130, 136, 140
146—Lithograph Label Paper
also 120, 130, 136, 140
146—Varnish Label Paper
also 136, 138

15

150—Duplicating Paper
also 630, 860
150—Mimeograph Paper
150—Multigraph Paper

16

160—Intaglio Paper
also 120, 800
160—Music Manuscript
160—Music No. 1
160—Music Paper

17

170—Antique Book Paper
also 120, 190
170—Baking Cups
also 800, 830, 850
170—Binders Waste
also 120, 410, 500, 780, 800
170—Book Ends
also 120, 410, 500, 780, 800
170—Book Paper
also 120, 190
170—Circulars
also 120, 130, 140, 190, 800
170—Containers, Sanitary
also 800, 850
170—Drinking Cup Paper
also 850
170—Embossing Paper
also 120
170—End Leaves
also 120, 410, 500, 780, 800
170—End Leaf Sheet
also 120, 410, 500, 780, 800
170—End Paper
also 120, 410, 500, 780, 800
170—Fly Leaf
also 120, 410, 500, 780, 800
170—Gelatin Board
170—Music Cover
also 120, 430
170—Offset Paper
also 171
170—Offset Postcard
also 171
170—Plate Paper
also 120, 190
170—Poster
also 120, 130, 140, 500
170—Poster Paper
also 120, 130, 140, 500
170—Program Paper
also 120, 190, 500
170—Soufflé Cups
also 850
170—Sputum Cups
also 850
170—Sundae Dishes
also 850

171—Offset Paper
also 170
171—Offset Postcard
also 170

18

180—Photogravure Paper
also 181, 182

181—Photogravure Paper
also 180, 182

182—Photogravure Paper
also 180, 181

19

190—Antique Book Paper
also 120, 170
190—Book Paper
also 120, 170
190—Catalogue Paper
also 120, 130, 140, 500
190—Circulars
also 120, 130, 140, 170, 800
190—Plate Paper
also 120, 170
190—Program Paper
also 120, 170, 500
190—Text
also 191, 192

191—Text
also 190, 192

192—Text
also 190, 191

1—BOOK PRINTING

Class Numbers	Class Names	Basic Size and Weights	Specifications
10	Base for Coating, Gumming or Pasting	25"x38", 500 sheets—20, 25, 30, 35, 40 45, 50, 60, 70, 80, 100 lbs.	.....
11	Bible	25"x38", 500 sheets—18, 20, 24, 30 lbs.	.....
12	Book	25"x38", 500 sheets—20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 100, 120 lbs.	.....
13	Clay Coated 1-side	25"x38", 500 sheets—60, 70, 80, 90, 100, 120 lbs.	.....
14	Clay Coated 2-sides	25"x38", 500 sheets—60, 70, 80, 90, 100, 120 lbs.	.....
15	Mimeograph	17"x22", 500 sheets—16, 20, 24, 28 lbs.	.....
16	Music	25"x38", 500 sheets—45, 50, 60, 70 lbs.	.....
17	Offset	25"x38", 500 sheets—30, 35, 40, 45, 50, 60, 70, 80, 100 lbs.	.....
18	Photogravure	25"x38", 500 sheets—40, 45, 50, 60, 70, 80 lbs.	.....
19	Text	25"x38", 500 sheets—40, 45, 50, 60, 70, 80 lbs.	.....

Type 2—Bristols

(Numbers 200 to 298 inclusive)

BRISTOLS OR BRISTOL BOARDS: This term is applied to that group of papers, used principally for printing and writing purposes where a stiff product is required, such as cards, tags and a wide variety of similar uses.

There are six major subdivisions or Classes of Bristols as follows:

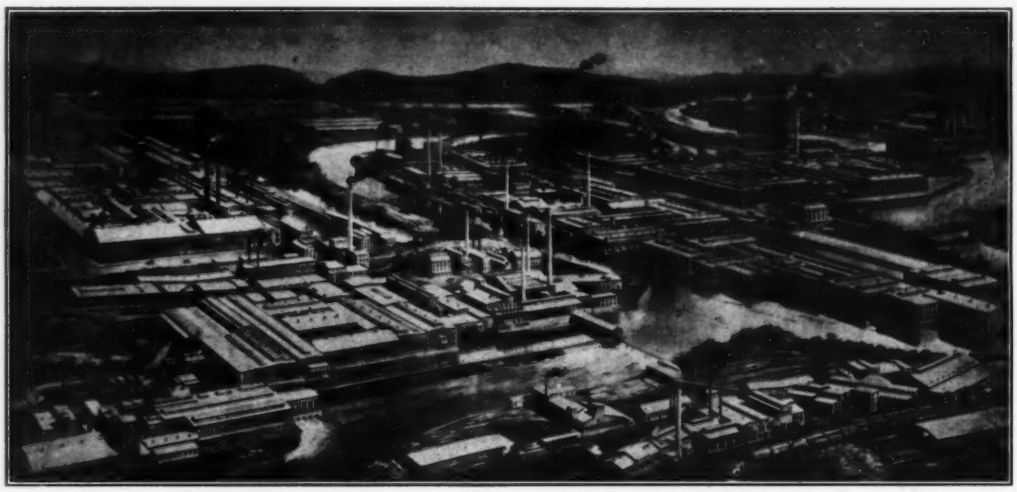
Index
Mill
Playing Card
Rope
Wedding
Special Vellum

Each Class may be subdivided into eight groups called Kinds, as follows:

Plain or Machine Dried
Tub Sized and Machine Dried
Tub Sized and Air or Loft Dried
Pasted in Rolls or Sheets
Special Clay Coat after Pasting Rolls
Clay Coated
Waxed or Oiled
Handmade

West Virginia Pulp and Paper Company

230 Park Avenue, New York 35 East Wacker Drive, Chicago
503 Market St., San Francisco, Cal. Public Ledger Building, Philadelphia, Pa.



Mills of West Virginia Pulp and Paper Company

MANUFACTURERS OF

English Finish, Supercalendered and Machine Finished

BOOK AND LITHOGRAPHIC PAPERS

Offset, Envelope, Bond, Writing, Mimeograph, Ledger, Eggshell, Cover and Music Papers, Index Bristol, Post Card

HIGH GRADE COATED BOOK

and Label Papers

KRAFT WRAPPING AND KRAFT ENVELOPE

also

BLEACHED SPRUCE SULPHITE PULP, SODA AND KRAFT PULP

DAILY CAPACITY
OVER 1400 TONS OF PULP AND PAPER

MILLS:

Mechanicsville	New York	Tyrone	Pennsylvania
Luke	Maryland	Williamsburg	Pennsylvania
Covington	Virginia	Cass	West Virginia

PRINCIPAL COMBINATIONS OF THE BRISTOL GROUP

	0	1	2	3	4	5	6	7	8	9
2 BRISTOL	Plain or Machine Dried	Tub Sized and Machine Dried	Tub Sized and Air or Loft Dried	Pasted in Rolls or Sheets		Special Clay Coat After Pasting in Rolls	Clay Coated	Waxed or Oiled	Handmade	
20 Index	200	201	202	203	...	...	...	...	208	...
21 Mill	210	...	...	213	...	...	216	217	...	...
22 Playing Card	220	221	...	223	...	225	...	...	...	...
23 Rope	230	...	...	233	...	...	...	237	...	...
24 Wedding	240	241	242	243	...	...	...	...	248	...
25	...	...	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...	...	...	...
29 Special Vellum	290	...	...	...	...	...	...	...	298	...

The following portion of the main chart will show this more in detail:

	0—Index	0—Plain or Machine Dried
	1—Mill	1—Tub Sized and Machine Dried
	2—Playing Card	2—Tub Sized and Air or Loft Dried
	3—Rope	3—Pasted in Rolls or Sheets
2—BRISTOL	4—Wedding	4—
	5—	5—Special Clay Coat after Pasting in Rolls
	6—	6—Clay Coated
	7—	7—Waxed or Oiled
	8—	8—Handmade
	9—Special Vellum	9—

The following list of names has been arranged and cross-indexed, under a series of numbers, to show all names of papers that refer to the same basic product.

20

200—Card Index Bristol
200—Engravers' Bristol
also 240, 241, 242
200—Folding Bristol
also 230
200—Folding Translucents
200—Guide Card Stock
also 210, 230
200—Index Board
200—Index Bristol
200—Index Card
also 210, 230
200—Lampshade Paper
also 780, 850
200—Number 1 Bristol
200—Number 2 Bristol
also 210
200—Solid Bristol
also 210
200—Steel Plate Paper
200—Steel Plate Paper
also 210, 810, 850
200—Ticket Paper
also 210
200—Translucents
also 210, 230

203—Pasted Bristol
also 213, 233, 243

21

210—Baggage Tags
also 230
210—Blanks
also 050, 051, 052, 061, 062, 064
210—Bogus Bristol
210—Coin Cards
210—Collar Paper
also 850
210—Document Guides
also 200
210—File Backs
210—Game Counters
also 072, 074
210—Guide Card Stock
also 210, 230
210—Index
also 200, 230
210—Jar Tops, Paper
also 020
210—Menu Board
also 062
210—Mill Blanks
210—Mill Board
210—Mill Bristol
210—Mill Glazed
210—Non-Pasted Blanks
210—Number 1 Mill Bristol
210—Number 2 Bristol
also 200
210—Oiled Stencil
210—Oyster Containers
also 050
210—Pattern Board
also 790
210—Postal Card Paper
210—Postcard Paper
210—Pin Tickets
also 062
210—Sample Cards
also 052
210—Sign Board
also 012, 062
210—Solid Bristol
also 200
210—Steel Plate Paper
also 200, 810, 850
210—Stencil Board
also 070, 217, 230
210—Tag Blanks
also 230
210—Tag Board
also 230
210—Ticket Paper
also 200
210—Ticket Stock
also 012, 200
210—Tough Check
also 230
210—Translucents
also 200, 230
210—White Mill Blanks

213—Pasted Blanks
also 025
213—Pasted Bristols
also 203, 204, 233, 243

216—Coated Litho Blanks
216—Enameled Post Card

217—Stencil Board
217—Wax Stencil

22

220—Playing Card Stock

225—Playing Card

23

230—Baggage Tags
also 210
230—Files—Paperoid
230—Folding Bristol
also 200
230—Guide Card Stock
also 200, 210
230—Index Card
also 200, 210
230—Jute Bristol
230—Rope Bristol
230—Rope Paper
also 760
230—Stencil Board
also 070, 210, 217
230—Tag Blanks
also 210
230—Tag Board
also 210
230—Tough Checks
also 210
230—Translucents
also 200, 210

233—Pasted Bristol
also 203, 204, 213, 243

24

240—Engravers' Bristol
also 200, 241, 242, 243
240—Kid Weddings
also 241, 242, 243
240—Wedding Bristol
also 241, 242, 243
240—Weddings
also 241, 242, 243

241—Engravers' Bristols
also 240, 242, 243
241—Kid Weddings
also 240, 242, 243
241—Wedding Bristol
also 240, 242, 243
241—Weddings
also 240, 242, 243

242—Engravers' Bristols
also 240, 241, 243
242—Kid Weddings
also 240, 241, 243
242—Wedding Bristol
also 240, 241, 243
242—Weddings
also 240, 241, 243

243—Engravers' Bristols
also 240, 241, 242
243—Kid Weddings
also 240, 241, 242
243—Mounting Cards
243—Mounts, Cards
243—Pasted Bristol
also 203, 204, 213, 233
243—Pasted Wedding Bristol
243—Photographic Mounts
243—Wedding Bristol
also 240, 241, 242
243—Weddings
also 240, 241, 242

25

290—Imperial Japanese Vellum
also 298
290—Japanese Vellum
also 298

298—Imperial Japanese Vellum
also 290
298—Japanese Vellum
also 290

Type 3—Building Papers

(Numbers 300 to 349 inclusive)

BUILDING: This term is applied to that group of papers used principally in the construction of buildings where heat insulation is important. Some of these products are fireproof or fire-retarding and are also used for that purpose.

This group of papers is becoming of increasing importance because of the demand on the part of the public for houses that are less affected by the hot sun and the cold winters. This group is also important in that it makes possible the use of waste farm products not otherwise economically available.

There are five major subdivisions or Classes of Building Papers as follows:

Asbestos
Felts
Gypsum or Plaster Board
Wallboard
Sheathing

Each Class may be subdivided into ten groups called Kinds as follows:

Plain or Solid
Pasted
Coated
Saturated
Saturated and Backed (Coated 1 Side)
Padded Product with Paper 1 or 2 Sides
Paper Surfaced 1 or 2 Sides
Surface Colored
Molded
Indented

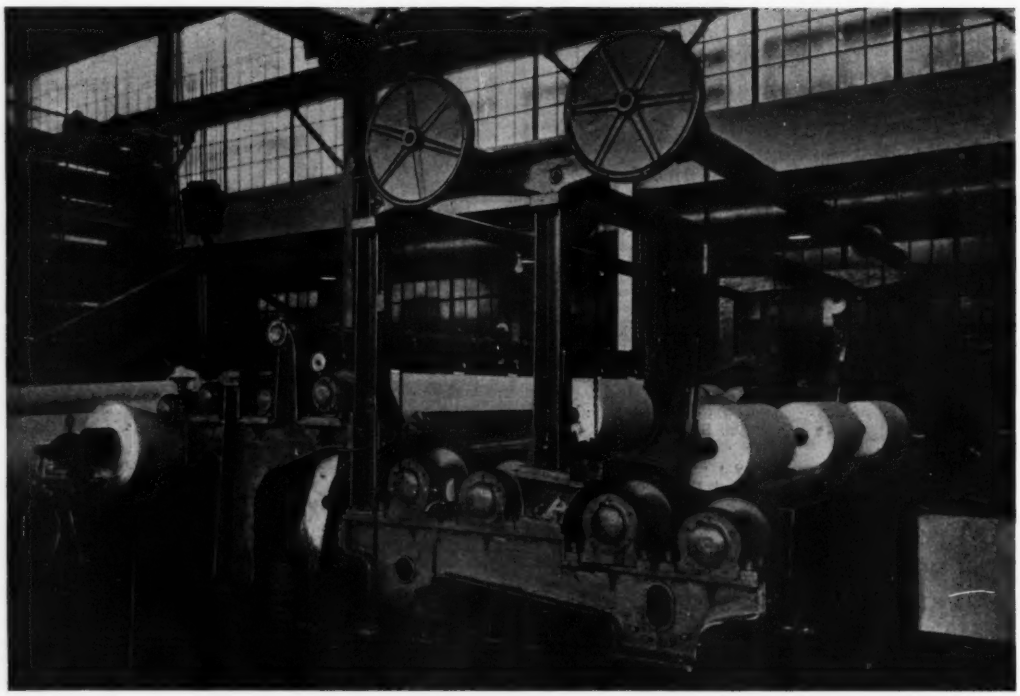
The following portion of the main chart will show this more in detail:

	0—Asbestos	0—Plain or Solid
	1—Felts	1—Pasted
	2—Gypsum or Plaster Board	2—Coated
3—BUILDING	3—Wallboard	3—Saturated
	4—Sheathing	4—Saturated and Backed (Coated 1 Side)
	5—	5—Padded Product with Paper 1 or 2 Sides
	6—	6—Paper Surfaced 1 or 2 Sides
	7—	7—Surface Colored
	8—	8—Molded
	9—	9—Indented

TAPPI SECTION, PAGE 96

The MOORE & WHITE Co.
PHILADELPHIA, PA.
N. PHILA. STA. PENNA. R.R.
PAPER MILL MACHINERY

HIGH SPEED FOUR-DRUM WINDER & SLITTER



MOORE & WHITE HIGH SPEED all ball bearing equipped four-drum winder and slitter with quick removable *bottom* slitter blades in mill of Champion Fibre Co., Canton, N .C.—236″ width of drums operating at a paper speed of 2100 feet per minute.

DESCRIPTIVE CATALOGUE ~
~ UPON REQUEST

PRINCIPAL COMBINATIONS OF THE BUILDING PAPERS GROUP

3 BUILDING	0 Plain or Solid	1 Pasted	2 Coated	3 Saturated	4 Saturated and Backed (Coated One Side)	5 Padded Product With Paper One or Both Sides	6 Paper Surfaced One or Two Sides	7 Surface Colored	8 Moulded	9 Indented
30 Asbestos	400	401	402	403	404	405	406	...	...	...
31 Felts	410	...	...	...	...	...	...	417	...	...
32 Gypsum or Plasterboard	420	...	...	...	...	...	...	427	...	...
33 Wall Board	430	...	...	...	...	...	...	...	...	...
34 Sheathing	440	441	...	...	...	...	...	...	...	...
35	450	451	...	453	454	...	...	...	...	...
36	460	...	462	...	...	465	466	...	...	...
37	...	...	...	...	...	...	...	...	...	...
38	...	...	...	...	...	...	...	...	...	...
39	...	...	...	...	...	...	...	...	...	...

The following list of names has been arranged and cross-indexed, under a series of numbers, to show all names of papers that refer to the same basic product.

30
300—Asbestos Paper
303—Acid Proof Asbestos Board
308—Asbestos Lumber
308—Asbestos Millboard

31
310—Carpet Felt
310—Deadening Felt
310—Dry Felt
310—Felts
310—Felts, Saturating
310—Floor Felts
also 313, 314
310—Fly Paper
also 313, 788
310—Gun Wadding
310—Gusset Felt
310—Roofing Felt
also 313
310—Roofing Paper
also 313
310—Saturating Felt
310—Saturating Paper
310—Seed-Germination Paper
also 900
310—Solid Felt

313—Floor Felts
also 310, 314
313—Fly Paper
also 310, 788
313—Mulching Paper
313—Roofing Felt
also 310
313—Roofing Paper
also 310
313—Saturated Felt
313—Tar Paper
313—Tarred Felt
313—Waterproofing Felt

314—Floor Felt

32
326—Gypsum Plaster Board
326—Gypsum Wall Board
326—Plaster Board
also 330
326—Wall Board
also 330, 331

33
330—Plaster Board
also 321
330—Wall Board
also 326, 331

331—Wall Board
also 326, 330

34
340—Car Lining
also 343, 700, 740
340—Carpet Lining
also 345, 349
340—Red Rosin Sized Sheathing
340—Red Rosin Sheathing Paper
340—Rosin, Sized Sheathing
340—Sheathing
340—Slater's Paper
340—Waterproof Sheathing

343—Car Lining
also 340, 700, 740

345—Balsa Wool
345—Carpet Lining
also 340, 349

349—Carpet Lining
also 340, 345

Type 4—Cover Paper

(Number 400 to 454 inclusive)

COVER: This term is applied to that group of papers used principally for decorative covering of containers used in merchandising and includes the outside covering material for circulars, booklets, and a wide variety of other printed matter where a decorative effect is essential to bring it to the attention of the public.

There are seven major subdivisions or Classes of Cover Papers as follows:

Box
Facing
Manuscript
Pamphlet
Photographic
Photomount
Special Coating Cover

Each Class may be subdivided into eight groups called Kinds as follows:

Plain or Untreated
Duplex
Surface Colored
Faced 1 side
Faced 2 sides
Coated 1 side
Coated 2 sides
Pasted With or Without Cloth

The following portion of the main chart will show this more in detail:

4—COVER	0—Box	0—Plain or Untreated
	1—Facing	1—Duplex
	2—Manuscript	2—Surface Colored
	3—Pamphlet	3—Faced 1 Side
	4—Photographic	4—Faced 2 Sides
	5—Photomount	5—Coated 1 Side
	6—Special Coating Cover	6—Coated 2 Sides
	7—	7—Pasted With or Without Cloth
	8—	8—
	9—	9—

The following list of names has been arranged and cross-indexed, under a series of numbers, to show all names of papers that refer to the same basic product.

40
400—Backing Paper
also 410
400—Box Cover
also 410
400—Cheviot
400—Chromatic Paper
400—Leatherette Cover Paper
400—Lining Paper
also 100, 500

405—Coated Cover Paper
405—Plain Coated Cover Paper

41
410—Backing Paper
also 400, 430, 690, 730
410—Binding Tape—Paper
(for lantern slides)
410—Binders Waste
also 120, 170, 500, 780, 800
410—Book Ends
also 120, 170, 500, 780, 800
410—Box Cover
also 400
410—End Leaf Sheet
also 120, 170, 500, 780, 800
410—End Leaves
also 120, 170, 500, 780, 800
410—End Paper
also 120, 170, 500, 780, 800
410—Facing Paper
410—Fly Leaf
also 120, 170, 500, 780, 800
410—Passe-Partout
410—Silhouette Paper

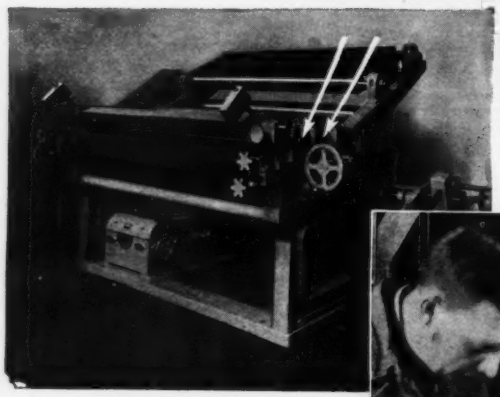
PRINCIPAL COMBINATIONS OF THE COVER GROUP

4 COVER	0 Plain or Untreated	1 Duplex	2 Surface Colored	3 Faced 1 Side	4 Faced 2 Sides	5 Coated 1 Side	6 Coated 2 Sides	7 Pasted With or Without Cloth	8	9
40 Box	300	...	...	303	...	...	...	...	308	...
41 Facing	310	...	312	313	314	...	...	...	...	319
42 Manuscript	...	...	...	...	...	...	326	...	...	...
43 Pamphlet	330	331	332	...	...	...	336	...	338	339
44 Photographic	340	341	...	343	...	345	...	347	...	349
45 Photomount	...	...	...	...	...	...	...	...	...	...
46 Special Coating Cover	...	...	...	...	...	...	...	...	...	...
47	...	...	...	...	...	...	...	...	...	...
48	...	...	...	...	...	...	...	...	...	...
49	...	...	...	...	...	...	...	...	...	...

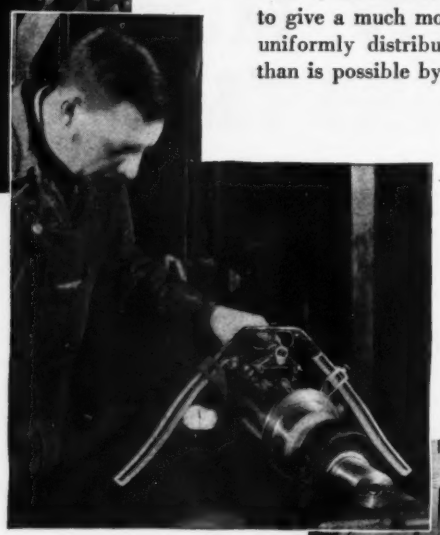
FARREL Super-Accurate ROLLS

Accurate to within 1/20000 inch
Make Reverse Roll Coating Practicable

In coating base materials such as paper, fabrics and metals, the reverse roll coating principle has been found to give a much more accurate thickness of coating more uniformly distributed over the surface of the material than is possible by any other means.



Above—A Waldron Reverse Roll Coating Machine equipped with Farrel Super-Accurate Rolls (indicated by arrows).



Left and Below—After grinding, the operator checking the accuracy of a 6" x 52" reverse coating roll two ways with a ten-thousandth micrometer indicator. This roll checked within 1/40,000 inch of absolute roundness and straightness.

Ground in a Farrel Two-Wheel, Swing-Rest Roll Grinder designed and built in our own shops. Rolls are ground on their journals mounted in sleeve bearings of the same type as those in which they are mounted in the coating machine so that the bodies will be truly concentric with the journals.

In the reverse roll coating machines built by John Waldron Corporation, of New Brunswick, N. J., one of which is shown here, Farrel Super-Accurate Rolls are used and they tell us that

> ". . . it has only been since Farrel-Birmingham Company, Inc., has been able to produce these super-accurate rolls that it has been practicable to market this line of equipment because the accuracy of the coating depends upon and is in proportion to the accuracy of the rolls."

The requirements for these reverse coating rolls are that they be round and straight to within one-half of one ten-thousandth inch (1/20,000"). The rolls shown in the photographs above have even less error—they are actually within *one-quarter of one ten-thousandth inch* (1/40,000") of absolute accuracy.

Rolls for most other purposes, admittedly, require a less exacting degree of accuracy and finish, but the fact that such close and fine work is produced in the Farrel Roll Shops is an indication of facilities and experience somewhat out of the ordinary. So that, for whatever purpose rolls may be required, you can be sure that Farrel Rolls will be the best that it is possible to produce.

Our engineers will be glad to consult with you on your roll problems.

FARREL-BIRMINGHAM COMPANY INC.
50 STATE ST., ANSONIA, CONN.

417—Pasted Cover Paper

420—Antique Cover Paper
also 430
420—Flexible Cover
also 430
420—Granite Paper
also 430

427—Cloth Lined Manuscript
427—Cloth Lined Paper
also 107, 137, 437, 737, 817, 827, 837, 857

43

430—Announcements
also 120, 121, 122, 190, 191, 192, 870, 871, 872, 873
430—Antique Cover Paper
also 420
430—Black Paper
also 410, 690, 730
430—Booklet Cover
430—Flexible Cover
also 420
430—Granite Paper
also 420
430—Machine Finished Cover Paper
430—Memo Cover
430—Music Cover
also 120, 170
430—Pamphlet Cover
430—Pamphlet Paper
430—Single-Thick Cover
430—Super Calendered Cover Paper

437—Cloth Lined Paper
also 107, 137, 427, 737, 817, 827, 837, 857

44

440—Autographic
also 441
440—Black Photo Paper

45

450—Album Paper
450—Photo Folders
450—Photo-Mount Cover
(what is its price)
450—Photo-Mounts
also 450, 452, 453, 454

452—Photo-Mounts
also 450, 453, 454

453—Photo-Mounts
also 450, 452, 454

454—Photo-Mounts
also 450, 452, 453, 450

500—Confetti
also 690
500—Construction Paper
also 120
500—Dodgers
also 120, 520
500—End Leaf Sheet
also 120, 170, 410, 780, 800
500—End Leaves
also 120, 170, 410, 780, 800
500—End Paper
also 120, 170, 410, 780, 800
500—Envelope Stuffer
also 120, 800
500—Fireworks Paper
also 100
500—Fly Leaf
also 120, 170, 410, 780, 800
500—Flyers
also 120, 520
500—Halftone News
500—Novel News
500—Poster
also 120, 130, 140, 170
500—Poster Paper
also 120, 130, 140, 170
500—Program Paper
also 120, 170, 190
500—Railroad Transfer Paper
500—Second Sheets
also 120, 800
500—Slip Sheets
also 100, 780
500—Tablet Paper
also 120, 520, 780, 800
500—Ticker Paper
also 120, 800
500—Ticker Tape

505—Target Patches
also 125

51

510—Hangings
510—Oatmeal Wall Paper
510—Wall Paper

511—Ingrain Wall Paper
also 512

512—Ingrain Wall Paper
also 511

52

520—Adding Machine Paper
also 120, 800, 830
520—Barber's Head Rest Paper
also 120, 680, 681, 800, 830
520—Cash Register Paper
also 120, 800
520—Computing Machine Paper
also 100, 780, 800
520—Dental Head Rests
also 120, 680, 681, 800, 830
520—Dodgers
also 120, 500
520—Flyers (Fliers)
also 120, 500
520—News Paper
520—News Print
520—Standard News Print
520—Tablet News
520—Tablet Paper
also 120, 500, 780, 800

Type 5—News

(Numbers 500 to 520 inclusive)

NEWS: This term is applied to that group of papers made primarily of ground wood pulp consisting principally of paper for our daily newspapers and paper for wall covering.

There are three major subdivisions or Classes of News as follows:

Ground Wood Specialties
Hanging
News

Each class may be subdivided into four groups called Kinds as follows:

Plain
Coated
Surface Colored
Gummed

The following portion of the main chart will show this more in detail:

	0—Ground Wood Specialties	0—Plain
	1—Hanging	1—Coated
	2—News	2—Surface Colored
	3—	3—
5—NEWS	4—	4—
	5—	5—Gummed
	6—	6—
	7—	7—
	8—	8—
	9—	9—

The following list of names has been arranged and cross-indexed, under a series of numbers, to show all names of papers that refer to the same basic product.

50

500—Binders Waste
also 120, 170, 410, 780, 800
500—Book Ends
also 120, 170, 410, 780, 800
500—Cash Sales Pads
also 120, 800
500—Catalogue Newsprint
500—Catalogue Paper
also 120, 130, 140, 190
500—Chemical Manila Writing
also 790, 800
500—Colored Poster Paper

Type 6—Tissue Paper

(Numbers 600 to 694 inclusive)

TISSUE: This term is applied to that group of papers that are extremely light in weight used both for printing and writing purposes, and for certain industrial uses where lightness in weight is essential.

There are ten major subdivisions or Classes of Tissue as follows:

Carbon
Cigarette
Condenser
Copying
Pattern
Stereotype
Textile and Twisting
Toilet
Toweling
Wrapping and Anti-Tarnish

Each Class may be subdivided into six groups called Kinds as follows:

Plain or Single
Creped
Waxed
Coated
Oil Impregnated
Embossed

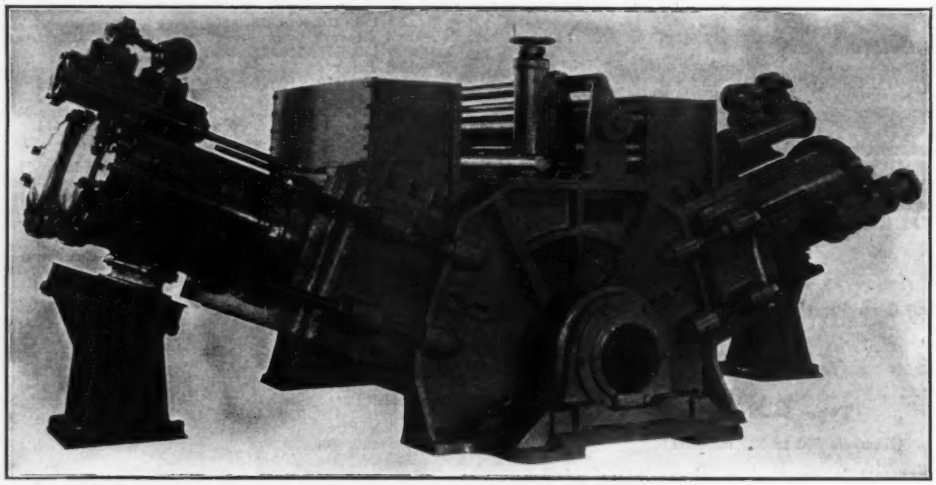
The following portion of the main chart will show this more in detail:

	0—Carbon	0—Plain or single
	1—Cigarette	1—Creped
	2—Condenser	2—Waxed
	3—Copying	3—Coated
	4—Pattern	4—Oil Impregnated
6—TISSUE	5—Stereotype	5—
	6—Textile and Twisting	6—
	7—Toilet	7—
	8—Toweling	8—
	9—Wrapping and Anti-Tarnish	9—Embossed

PRINCIPAL COMBINATIONS OF THE NEWS GROUP

5 NEWS	0 Plain	1 Coated	2 Surface Colored	3	4	5 Gummed	6	7	8	9
50 Ground-wood Specialties	500	501	502	...	...	505	...	...	...	...
51 Hanging	510	511	512	...	...	...	...	...	...	...
52 News	520	..	...	...	...	...	...	...	...	...
53	...	...	...	...	...	...	...	...	...	...
54	...	...	...	...	...	...	...	...	...	...
55	...	...	...	...	...	...	...	...	...	...
56	...	...	...	...	...	...	...	...	...	...
57	...	...	...	...	...	...	...	...	...	...
58	...	...	...	...	...	...	...	...	...	...
59	...	...	...	...	...	...	...	...	...	...

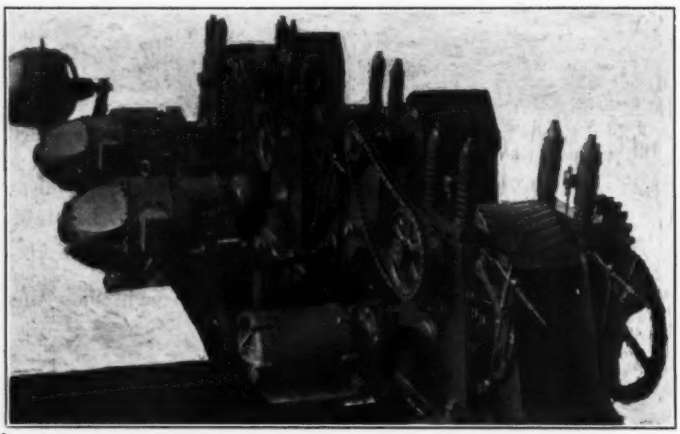
THE GREAT NORTHERN GRINDER



The Great Northern grinder for 4-foot wood is the most important development in years in the art of making groundwood pulp. Seven years of experimentation and research, followed by three years of successful operation, preceded the offering of this grinder to the industry. The grinder has numerous outstanding advantages which we should like to explain to you without obligation on your part.

MONTAGUE MACHINE COMPANY

Turners Falls, Mass.



FULTON

DEHYDRATORS OFFER—

Continuous bark dehydration
Better fuel (finely divided)
Greater flexibility
Lower maintenance

The method of dehydration is simple. It is the result of more than 50 years experience in building equipment for the extraction of liquids from fibrous materials. It economically and continuously produces a drier material which is smooth and even, and has a high fuel value. This results in greatly increased furnace and boiler efficiency.

FULTON IRON WORKS CO.

1259 DELAWARE AVENUE, ST. LOUIS, MO.

PRINCIPAL COMBINATIONS OF THE TISSUE GROUP

6 TISSUE	0 Plain or Single	1 Creped	2 Waxed	3 Coated	4 Oil Impregnated	5	6	7	8	9 Embossed
60 Carbon	600	...	...	603	...	...	...	...	...	...
61 Cigarette	610	...	...	...	...	...	...	...	...	619
62 Condenser	620	...	...	...	624	...	...	...	...	...
63 Copying	630	...	632	633	634	...	...	...	...	...
64 Pattern	640	...	...	...	644	...	...	...	...	...
65 Stereotype	650	...	...	...	...	...	...	...	...	...
66 Textile and Twisting	660	...	662	663	664	...	...	...	...	...
67 Toilet	670	671	...	...	674	...	...	...	...	...
68 Toweling	680	681	...	...	684	...	...	...	...	...
69 Wrapping and Anti-Tarnish	690	691	692	693	694	...	...	...	...	...

The following list of names has been arranged and cross-indexed, under a series of numbers, to show all names of papers that refer to the same basic product.

60

600—Carbonizing Paper
600—Carbonizing Tissue
600—Carbon Paper
600—Carbon Tissue
600—Industrial Tissues
also 610, 620, 630, 640, 650, 660

603—Carbon Paper, Coated
603—Coated Carbon Paper
603—Pen Carbon Paper
603—Pencil Carbon Paper

61

610—Cigarette
610—Cigarette Tissue
610—Industrial Tissue
also 600, 620, 630, 640, 650, 660

62

620—Condenser Paper
620—Condenser Tissue
620—Industrial Tissue
also 600, 610, 630, 640, 650, 660
620—Insulating Tissue
also 624

624—Insulating Tissue
also 620

63

630—Address Label Paper
also 634
630—Copying Tissue
630—Duplicating Paper
also 150, 860
630—Duplicating Tissue
630—Industrial Tissues
also 600, 610, 620, 640, 650, 660
630—Japanese Copying Paper
630—Lens Paper (Japanese)
630—Press Copying Paper
630—Press Copying Tissue
630—Railroad Copying Tissue
630—Yellow Waybill Copying
also 780

633—Dermatype Stencil Paper
633—Duplicating Stencil Paper
633—Mimeotype Stencil Paper
633—Stencil Paper
633—Wax Stencil Paper

634—Address Label Paper

64

640—Industrial Tissues
also 600, 610, 620, 630, 650, 660
640—Pattern Tissue

65

650—Industrial Tissues
also 600, 610, 620, 630, 640, 660
650—Stereotype Tissue

66

660—Carpet Yarns
660—Fabrics Paper
660—Fiber Rug Paper
660—Hats, Paper
660—Industrial Tissues
also 600, 610, 620, 630, 640, 650
660—Paper Textiles
660—Paper Twine
660—Paper Yarn
660—Rugs, Paper
660—Seaming Cards
660—Textile Tissue
660—Twine, Paper
660—Twisting Paper
660—Yarns, Paper

663—Tracing Tissue
also 664

664—Tracing Tissue
also 663

67

670—Sanitary Tissue
also 671, 674
670—Toilet Paper
also 671, 674
670—Toilet Tissue
also 671, 674

671—Sanitary Tissue
also 670, 674
671—Toilet Paper
also 670, 674
671—Toilet Tissue
also 670, 674

674—Sanitary Tissue
also 670, 671
674—Toilet Paper
also 670, 671
674—Toilet Tissue
also 670, 671

68

680—Bandages, Paper
also 681
680—Barber's Head Rest Paper
also 120, 520, 681, 800, 830
680—Dental Head Rest Paper
also 120, 520, 681, 800, 830
680—Diapers, Paper
also 681
680—Kraft Waterleaf
also 681
680—Napkin Paper
also 681
680—Napkin Tissue
also 681
680—Paper Napkins
also 681
680—Toweling
also 681
680—Towel Paper
also 681
680—Towel Tissue
also 681

681—Bandages, Paper
also 680
681—Barber's Head Rest Paper
also 120, 520, 680, 800, 830
681—Dental Head Rest
also 120, 520, 680, 800, 830
681—Diapers, Paper
also 680
681—Kraft Waterleaf
also 680
681—Napkin Paper
also 680
681—Napkin Tissue
also 680
681—Paper Napkins
also 680
681—Surgical Dressing Paper
also 684
681—Toweling
also 680
681—Towel Paper
also 680
681—Towel Tissue
also 680

684—Surgical Dressing Paper
also 681

69

690—Anti-Tarnish Paper
also 692, 694, 730, 737, 790, 797
690—Anti-Tarnish Tissues
also 692, 694
690—Black Paper
also 410, 430, 730
690—Black Wrapping Paper
also 730
690—Bottle Wrapping Paper
also 010, 019, 080, 089, 790
690—Commercial Tissues
690—Confetti
also 500
690—Crepe Tissue
also 691
690—Cutlery Paper
also 730
690—Flowers, Paper
also 860
690—Fruit Tissue
also 694
690—Fruit Wrapping Tissue
690—Grass Bleached Tissue
690—Hosiery Paper
also 730, 790
690—Needle Tissue
also 694, 790
690—Pin Paper
also 790
690—Pottery Tissue
690—Printed Fruit Wrapping
also 694
690—Silver Tissue
690—Streaming Paper
also 691
690—Tissue Manila
690—Wrapping Tissue

691—Bells, Paper
691—Crepe Tissue
also 690
691—Streamers, Paper
also 690

692—Anti-Tarnish Paper
also 690, 694, 730, 737, 790, 797
692—Anti-Tarnish Tissue
also 690, 694
692—Bread Wrappers
692—Waxed Tissue

694—Anti-Tarnish Tissue
also 690, 692, 730, 737, 790, 797
694—Anti-Tarnish Tissues
also 690, 692
694—Fruit Tissue
also 690
694—Fruit Wrapping Tissue
also 690
694—Printed Fruit Wrappers
also 690

Type 7—Wrapping Paper

(Numbers 700 to 789 inclusive)

WRAPPING PAPER: This term is applied to that group of papers, principally used for wrapping various products. The term covers a broad classification of many papers, made from a large variety of raw materials, and by various manufacturing methods to produce a wide range of products.

The identical or nearly identical finished paper, frequently is used for very widely different uses, and special names are used to designate each of these different uses. To make the subject still more confusing we find the same or similar names being used for papers of wide variation in quality and appearance, even though the papers may be used for the same purpose. The following illustration is noted. The regular kraft paper known to all, may be used for wrapping cutlery and tools, and is then called anti-tarnish or hardware wrapper. Pasted into large sheets it becomes automobile storage bags. Cut into narrow strips it becomes an automobile tire wrap, bedstead wrapping, bill strips, or cable paper. This same kraft made into bags becomes bag paper, and made into envelopes becomes an envelope paper. This apparent confusion of terms applies throughout the paper industry although the names are well understood by those manufacturing and marketing each group.

The other case noted above where the same name is applied to a wide variation in paper is equally confusing and is illustrated as follows:—The name bag liner may be used to cover several entirely different papers because linings for paper bags may be made from a glassine paper, kraft paper, vegetable parchment paper, paraffin or waxed paper, and wood manila papers. Names as applied to paper, usually refer to the use, to which a paper is put.

Fitchburg Paper Company

Founded 1861

MANUFACTURERS OF

Fitchburg Finish

PRINTING PAPERS
AND SPECIALTIES

Capacity—100 Tons Per Day

Fitchburg - - Massachusetts

THE CHILLICOTHE PAPER CO.

CHILLICOTHE, OHIO

Manufacturers of

English Finish and Supercalendered Book Paper
Plain and Fancy Finish Offset and
Lithograph Papers

LOGAN and ADENA BRANDS
Papers of High Quality

New York Office
41 Park Row

PRINCIPAL COMBINATIONS OF THE WRAPPING GROUP

7 WRAPPING	Plain or Single	Machine Glazed	Calender colored 1 or 2 sides	Duplex	Waxed	Gummed	Clay Coated	Plied with Asphalt with or without Cloth or Burlap	Coated Impregnated or Treated Chemically	Creped Corrugated Embossed or indented
70 Bogus Manila or Mill Wrapper	700	...	702	703	...	...	...	...	...	709
71 Cartridge	710	...	712	713	714	...	...	...	718	...
72 Glassine Base	720	721	...	...	...	725	...	...	...	729
73 Kraft	730	731	732	733	734	735	736	737	738	739
74 Rope	740	...	742	743	744	745	746	...	748	749
75 Straw or Semi-Chemical	750	...	...	...	...	...	...	...	...	759
76 Vegetable Parchment Base	760	...	...	...	...	...	...	...	768	...
77 Waxing Base	770	...	...	...	774	...	...	...	...	...
78 Wood Manila	780	781	782	783	784	785	...	787	788	789
79	...	...	...	...	...	...	...	...	...	...

There are nine major subdivisions or Classes of Wrapping Papers, as follows:

Bogus Manila and mill wrappers
Cartridge
Glassine
Kraft
Rope
Straw
Vegetable parchment base
Waxing base
Wood manila

Each Class may be subdivided into ten groups called Kinds, as follows:

Plain or Single
Machine Glazed
Calender Colored (1 or 2 sides)
Duplex
Waxed
Gummed
Clay-Coated
Plied with Asphalt with or without Cloth or Burlap
Coated, Impregnated or Treated Chemically
Creped Corrugated, Embossed or Indented.

The following portion of the main chart will show this more in detail.

7 WRAPPING	
0—Bogus Manila and Mill Wrapper	0—Plain or Single
1—Cartridge	1—Machine Glazed
2—Glassine	2—Calender Colored 1 or 2 sides
3—Kraft	3—Duplex
4—Rope	4—Waxed
5—Straw	5—Gummed
6—Vegetable Parchment Base	6—Clay-Coated
7—Waxing Base	7—Plied with Asphalt with or without Cloth or Burlap
8—Wood Manila	8—Coated, Impregnated or Treated Chemically
9—	9—Creped, Corrugated, Embossed or Indented

The tabulation above gives the combinations that are in regular use in the industry. For example 70—bogus manila or mill wrapper, if a "plain or single" body stock is 700. A "bogus manila or mill wrapper" never is "machine glazed", "waxed", "gummed" or "clay coated". It may be 702, "Calender colored, one or both sides." If a duplex sheet it becomes 703. If "corrugated, embossed or indented" it is designated as 709. Glassine No. 72 may be purchased "plain" and is then designated as 720. It is sold with a gum or adhesive coating and becomes 725. Glassine paper is frequently embossed with fancy designs and may then be designated as 729. Various combinations of the nine subdivisions under Class will be noted from the tabulation.

The following names have been taken from the complete alphabetical list and are arranged by groups, in which each group covers one kind of paper, though it may be designated by one name or a large number of names. The sixty or more names under the number 730 all refer to regular kraft wrapping paper. The 700 group all refer to the same kind of paper though differences in raw material and coloring materials used, will give differences in appearance and quality. The 700 group covers a range of papers used for wrapping purposes where strength is not essential but where stiffness and "body" are essential. This group is made from old papers, old box board, pulp screenings, old rags, rag dust and the lower grades of ground wood and unbleached sulphite pulps. Such names as bogus manila, car lining, gray express, heavy wrapper and rag wrapping all belong to this class. The product sold by various mills varies greatly from mill to mill and there are no standards or specifications, even ream weights vary over a wide range and is dependent upon each customer's requirements.

The following list of names have been arranged and cross indexed, under a series of numbers, to show all names of papers that refer to the same basic product. Such a list should be helpful in a study of the subject, by those not entirely familiar with all of the various types, classes and kinds of paper.

70

700—Baling Paper
700—Bogus Manila
700—Bogus Wrapping
700—Butchers Manila
700—Butchers Wrapping
also 780
700—Candle Paper
also 010, 780
700—Car Lining
700—Core Paper
also 750
700—Core Stock
also 750
700—Express Wrapping
700—Flat Wrapping
also 730, 740, 780
700—Gray Express
700—Heavy Wraper
700—Mill Wrapper
700—Rag Lining
700—Rag Wrapping
700—Roofing Wrapper
also 730, 780
700—Screenings—Wrapper
700—Spiral Tubes
700—Spool Paper
700—Trunk Wrapper
700—Tube Board

703—Bogus Duplex

71

710—Ammunition Paper, see Cartridge Paper
710—Cartridge Paper
also 712, 713, 734, 784

712—Cartridge Paper
712—Shot Shell Paper

713—Cartridge Paper
713—Shot Shell Paper

72

720—Greaseproof Paper
also 768, 780
720—Greaseproof Wrappings
also 768, 780
720—Imitation Parchment
also 780, 880
720—Jelly Protectors
720—Oilproof Papers
720—Parchmoid
720—Parchmyn
720—Pergamyn

721—Bag Liners
also 730, 768, 774, 780, 784
721—Glasseloid
721—Glassine
721—Glassoid
721—Sandwich Bags
also 730, 768, 774
721—Transparent Paper
721—Glassine Plain

725—Adhesive Glassine Tape
725—Adhesive Tape
also 105, 735, 785, 805
725—Glassine Tape
725—Glassine Tape gummed

729—Glassine Embossed

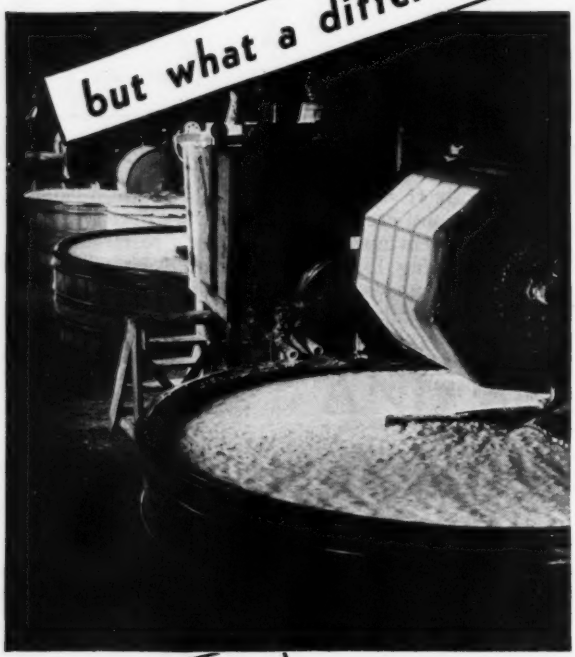
73

730—Anti Tarnish Wrapping
also 738, 780, 788, also see Anti Tarnish Tissue 690
730—Automobile Storage Bags
also 737
730—Automobile Tire Rolls
also 737, 739
730—Automobile Cover
(see Automobile Storage Bags)
730—Automobile Tire Wraps
(see Automobile Tire Rolls)
730—Bag Liners
also 720, 767, 774, 780, 784
730—Bag Papers
also 720, 730, 740, 760, 770, 780 and their subdivisions
730—Beaming Paper
also 731, 733, 780, 781, 783
730—Bedstead Wrapping Rolls
also 780
730—Bill Straps
also 740
730—Book Wrapper
also 740, 780
730—Book Wrapping Paper
see 740, 780
730—Box Stays
also 740, 780
730—Cable Paper
also 740
730—Case Lining
also 737, 774, 780, 787
730—Chest Protector
also 780
730—Cement Sacks Paper
also 740, 743
730—Clasp Envelopes
also 740, 780
730—Catalogue, Envelopes
also 731, 740, 743, 780, 800
730—Coffee Bags
also 780 lined with or without 720—Glassine
730—Cotton Sampling
also 740, 780
730—Designers Pattern Paper
also 740, 780
730—Die Wiping Paper
also 739, 740, 749, 780, 789
730—Document Envelopes
also 740, 780
730—Document Files
also 740, 780
730—Document Manila
also 740, 780
730—Druggist Wrapping
also 780-800
730—Electrical Cable Filling Paper
also 740
730—Electrical Conduit Twines
also 740
730—Expanding Envelope
also 740, 780
730—Flat Wrapper
also 700, 740, 780
730—Folders Paper
also 740, 780
730—Furniture Paper
also 780
730—Furniture Wrapping
also 780

TAPPI Section, Page 100

SAME BEATER SAME PULP

but what a difference!



with P.Q.

SILICATE of SODA

IN a bond, a quality crackle, and in a cover a distinctive finish and brilliancy. In any event, all the short fibers are safely and snugly tucked in.

Get the properties of quality in this economical way — size with P. Q. Silicate.

Let us show you the evidence of how other mills use P. Q. Silicates to improve quality or lower costs. Then make a trial run, and see for yourself the difference in your sheet.

PHILADELPHIA QUARTZ COMPANY

General Offices and Laboratory: 125 S. Third St., Philadelphia, Pa.
Chicago Sales Office: 205 W. Wacker Drive. Stocks in 65 cities.
Sold in Canada by NATIONAL SILICATES LTD., Toronto, Ontario.

WORKS:

Anderson, Ind. — Kansas City, Kans.
Baltimore, Md. — Rahway, N. J.
Chester, Pa. — St. Louis, Mo.
Buffalo, N. Y. — Utica, Ill.

PQ

Est. 1831

LINK-BELT

Chains of Steel

A complete line of Steel Chains for every transmission and conveying requirement.

Promal

A stronger, longer-wearing metal for cast chains. Ordinarily lasts twice as long as malleable iron, and costs but a fraction more.

Malleable Iron

Link-Belt Malleable Iron Chains have been the standard since 1875 when the first detachable link chain, invented by William D. Ewart, was put on the market by this Company

for

Conveying and Power Transmission

The Correct Chain for Every Service

Send for Catalogs

4882-C

LINK-BELT COMPANY

Leading Manufacturers of Equipment
for Handling Materials Mechanically and Transmitting Power Positively
Indianapolis, Ewart Plant, 220 S. Belmont Ave.; Dodge Plant, 519 N. Holmes Ave.
Chicago Plant, 300 W. Pershing Rd.; Caldwell-Moore Plant, 2410 W. 18th St.
Philadelphia Plant, 2045 W. Hunting Park Ave. San Francisco Plant, 400 Paul Ave.
Offices in All Principal Cities
In Canada: Link-Belt Limited—Toronto Plant; Montreal; Vancouver

730—Grocery Bag Paper
also 740, 780
730—Grocery Paper
also 740, 780
730—Ham Paper or Ham Wrap
also 760, 780
730—Hardware Paper
also 737, 780, 787
730—Interleaving Paper
also 740, 780, 900
730—Keyboard Paper
also 100, 740, 780, 800
730—Kraft
also 731
730—Kraft Bag Paper
730—Kraft Paper
730—Kraft Waterproof
730—Laundry Bags
also 780
730—Monotype Keyboard Paper
also 100, 740, 780, 800
730—Moth Bag Paper
also 012, 739
730—Music Roll Paper
also 740, 780, 190
730—Number 1 Kraft
730—Number 2 Kraft
730—Phonograph Record Envelope
730—Pie Bags
also 780
730—Plate Wiping Paper
also 739, 740, 749, 780, 789
730—Player Piano Paper
also 190, 740, 780
730—Roofing Wrappers
also 780
730—Sack Paper
also 740, 780
730—Sampling Paper
also 740
730—Sandwich Bags
also 720, 768
730—Sanitary Wrapping Paper
730—Sealing Wrappers
also 740, 780
730—Semi-Kraft
730—Shopping Bag Paper
also 740
730—Sulphate Wrapping
730—Tea Paper
also 780
730—Tire Wrappers
also 737, 739
730—Tire Rolls
(See Tire Wrappers)

731—Beaming Paper
also 730, 733, 780, 781, 783
731—Catalogue Envelopes
also 740, 743, 780, 800
731—Kraft M. G. (Machine Glazed)
731—M.G. Kraft

733—Beaming Paper
also 730, 731, 780, 781, 783
733—Duplex Wrapping
also 733, 783
733—Sealing Wrapper
733—Wire Wraps

734—Waterproofed Cartridge Paper

735—Adhesive Tape
also 105, 725, 785, 805
735—Gummed Tape
also 725
735—Parcel Tapes
735—Printed Gummed Tape
735—Sealing Tape

737—Automobile Storage Bags
also 730
737—Automobile Tire Rolls
also 730, 739
737—Burlap-lined Paper
737—Case Lining
also 730, 774, 780, 787
737—Cloth Lined Paper
also 107, 137, 427, 817, 827
837, 857
737—Mulching Paper
also 313, 783
737—String Inserted Waterproof
737—Treaded Felts
737—Waterproof Bag
737—Waterproof Wrapping

738—Acid Proof Paper
738—Anti Acid Manila
738—Anti Tarnish
also 780, 787—also see Anti Tarnish Tissue
738—Fish Paper
also 934
738—Hardware Paper
also 730, 780, 787
738—Mothproof Bags
also 747, 787
738—Mulching Paper
also 313, 737
738—Threaded Felts

739—Barrel Liners
also 789
739—Creped Kraft
739—Die Wiping Paper
also 730, 740, 749, 780, 789
739—Plate Wiping Paper
also 730, 740, 749, 780, 789

74

740—Abrasive Paper
also 748
740—Bag Papers
also 720, 730, 744, 746, 768, 780 and subdivisions
740—Bill Straps
also 730
740—Cable Paper
also 730
740—Carborundum Paper
also 748
740—Catalogue Envelope
also 730, 731, 743, 780, 800
740—Cement Sack Paper
also 730, 743
740—Clasp Envelopes
also 730, 780
740—Cotton Sampling
also 730, 780
740—Currency Straps
740—Designers Pattern Paper
also 730, 780
740—Die Wiping Paper
also 730, 739, 749, 780, 789
740—Document Envelopes
also 730, 780
740—Document Files
also 730, 780
740—Document Manila
also 730, 780
740—Electrical Cable Filling Paper
also 730
740—Electrical Conduit Twines
also 730
740—Emery Paper
also 748
740—Expanding Envelopes
also 730, 780
740—Flat Wallets
740—Flat Wrapping
also 700, 730, 780
740—Flint Paper
also 748
740—Flour Sacks
also 743, 746
740—Flour Sack Paper
also 743, 746
740—Folders, Paper
also 730, 780
740—Garnet Paper
also 748
740—Jute Bag Paper
740—Jute Manila Wrapping
740—Jute Paper
740—Keyboard Paper
also 100, 730, 780, 800
740—Monotype Keyboard Paper
also 100, 730, 780, 800
740—Music Roll Paper
also 190, 730, 780
740—Number 1 Manila
also 780
740—Number 2 Manila
also 740
740—Plate Wiping Paper
also 730, 739, 749, 780, 789
740—Player Piano Paper
also 190, 730, 780
740—Rope Bag Papers
740—Rope Envelope Paper
also 830
740—Rope Manila Paper
740—Rope Wrapping
740—Sack Paper
also 730, 780
740—Sampling Paper
also 730
740—Sand Paper
also 748
740—Sealing Wrappers
also 730, 733, 743, 780, 783
740—Seed Packets
740—Shopping Bag Paper
also 730
740—Tag Envelope
740—Wallets

743—Catalogue Envelope
also 730, 731, 740, 780, 800
743—Cement Sack Paper
also 730, 740
743—Duplex Wrapping
also 733, 783
743—Sealing Wrappers
also 730, 733, 740, 780, 783
743—Flour Sacks
also 740, 746

744—Bag Papers
also 720, 730, 740, 746, 770, 780

746—Bag Papers
also 720, 730, 740, 744, 770 780
746—Flour Sacks
also 740, 743
746—Flour Sack Paper
also 740, 743

748—Abrasive Paper
also 740
748—Carbonundum Paper
also 740
748—Cork Paper
also 788
748—Crocus Paper
also 740
748—Emery Paper
also 740
748—Flint Paper
also 740
748—Garnet Paper
also 740
748—Gasket Stock
also 040, 921
748—Mothproof Paper
also 738, 788
748—Sand Paper
also 740

749—Barrel Liners
also 739, 789
749—Die Wiping
also 730, 739, 740, 780, 789
749—Plate Wiping Paper
also 730, 739, 740, 780, 789

75

750—Bottle Wrapping Paper
also 010, 019, 080, 089, 690
750—Core Stock
also 700
750—Straw Wrapping

759—Corrugated Straw Wrapping
759—Corrugating

76

760—Parchmentizing Paper
768—Bag Liners
also 720, 730, 774, 780, 784
768—Bag Papers
also 720, 730, 740, 744, 746, 780
768—Blankets, Paper
768—Butter Paper
768—Butter and Lard Wraps (Printed)
768—Dish Cloths, Paper
768—Greaseproof Paper
also 720, 780
768—Greaseproof Wrapping
also 720, 780
768—Ham Paper, or Ham Wraps
also 730, 780
768—Ice Blanket Paper
768—Jelly Protectors
also 720, 774, 780, 800
(any white sized paper)
768—Lunch—Rolls
also 774
768—Oilproof Paper
also 720, 780
768—Parchment circles
768—Parchment Paper
also 880
768—Sandwich Bags
also 720, 774
768—Sanitary Wrapping Paper
also 720, 730, 774, 780
768—Vegetable Parchment

77

770—Waxing Paper
774—Bag Lining
also 720, 730, 768, 780, 784
774—Case Lining
also 730, 737, 780
774—Jelly Protectors
also 720, 768, 780, 800
774—Lunch—Rolls
also 768
774—Paraffin Paper
774—Sandwich Bags
774—Sanitary Wrapping Paper
774—Self-Sealing Paper
774—Waxed Paper
774—Waxed Tissue

78

780—Alkali—Proof Papers
also 100, 800
780—Anti-Tarnish
also 730, 738, 788
780—Back Lining
also 120, 500, 800
780—Bag Liners
also 720, 730, 768, 774, 784
780—Bag Papers
also 720, 730, 740, and subdivisions
780—Beaming Papers
also 730, 731, 733, 781, 783
780—Bedstead Wrapping Rolls
also 730
780—Binders Waste
also 120, 170, 410, 500, 780, 800
780—Blasting Paper
780—Book Ends
also 120, 170, 500, 800
780—Book Wrapping
also 730
780—Book Wrapping Paper
780—Box Stay
also 730
780—Butchers Wrapping
also 700
780—Cake Circle
also 010, 050
780—Candle Paper
also 010, 700
780—Candy Bags
780—Case Lining
also 730, 737, 774, 787
780—Catalogue Envelope
also 730, 731, 740, 743, 800
780—Chest Protector
also 730
780—Cigarette Mouthpiece
also 100, 800
780—Clasp Envelopes
also 730, 740
780—Coffee Bags
also 730
780—Cones, Paper
also 010, 170, 850
780—Cotton Batting
780—Cotton Sampling
also 730, 740
780—Designers Pattern Paper
also 730, 740
780—Die Wiping Paper
also 730, 739, 740, 749, 780, 789
780—Document Envelopes
also 730, 740
780—Document Files
also 730, 740
780—Document Manila
780—Drab Sealing Paper
also 782, 783
780—Druggist's Wrapper
also 730
780—Dynamite Paper
780—Dry Finish Sulphite Wrapings
780—End Lead Sheet
also 120, 170, 410, 500, 800
780—End Leaves
also 120, 170, 410, 500, 800
780—End Paper
also 120, 170, 410, 500, 800
780—Expanding Envelopes
also 730, 740
780—Flat Wrapers
also 700, 730, 740
780—Fly Leaf
also 120, 170, 410, 500, 800
780—Folders-Paper
also 730, 740
780—Frisket Paper
780—Furniture Paper
also 730
780—Furniture Wrapping
also 730
780—Greaseproof Paper
also 720, 768
780—Greaseproof Wrapping
also 720, 768
780—Grocery Bag Paper
also 730
780—Grocery Paper
also 730
780—Ham Paper or Ham Wrap
also 730, 768
780—Hardware Paper
also 730, 737, 787
780—Imitation Kraft
780—Imitation Parchment
also 720, 880
780—Interleaving Paper
also 730, 900
780—Jelly Protectors
also 720, 768, 774, 800
780—Keyboard Paper
also 100, 730, 740, 800
780—Laundry Bags
also 730
780—Lead Pencil Paper
780—Macaroni Paper
780—Monotype Keyboard Paper
also 100, 730, 740, 800
780—Music Roll Paper
also 190, 730, 740
780—Number 1 Manila
also 740
780—Number 2 Manila
also 740
780—Oilproof Paper
also 720, 768
780—Pencil Paper
780—Pergamyn
also 720
780—Pie Bag
also 730
780—Plate Wiping Paper
also 730, 739, 740, 749, 789
780—Player-Piano Paper
also 190, 730, 740

INTERNATIONAL Papers

for Commercial, Publishing and Industrial Uses

PRINTING GRADES

Bond • Book • Catalogue • Cover • Index Bristol • Ledger • Magazine • Manifold Manila • Mimeograph • Newsprint • Novel News • Colored Print • Offset • Poster Railroad Writing • Rotogravure

CONVERTING GRADES

Bag • Lining • Carbonizing • Coating Cup Paper • Drawing • Envelope • Foil Backing • Groundwood Coating • Gumming Hanging • Manila • Register • Soda Straw Paper • Tablet • Waxing

PROMPT ATTENTION GIVEN TO SPECIAL REQUIREMENTS

Made by

INTERNATIONAL PAPER COMPANY

220 E. 42nd St., New York, N. Y.

Atlanta • Boston • Chicago • Cleveland Philadelphia • Pittsburgh

For
Thin Letterheads
Records - Forms

Recommend

Fidelity Onion Skin

—or—

Emco Onion Skin

Save Postage and Filing Space

ESLEECK MANUFACTURING CO.

TURNERS FALLS, MASS.

780—Pleating Paper
780—Railroad Manila
780—Railroad Writings
780—Roofing Wrappers
also 700, 730
780—Sack Paper
also 730, 740
780—Sanitary Wrapping Paper
also 720, 730, 768, 774
780—Sealing Wrappers
also 730, 733, 740, 743, 783
780—Seidlitz Paper
780—Slip Sheets
780—Soap Wrappers
also 100, 120, 800
780—Sulphite Bag Paper
780—Sulphite Manila
780—Syphon Recorder Paper
also 800
780—Tablet Paper
also 120, 500, 520, 800
780—Tea Paper
also 730
780—Telegraph Manila
780—Telegraph Paper
780—Tobacco Bags
780—Tobacco Papers
780—Water Finish Sulphite Wrappings
780—Waybill Paper
780—White Sulphite Paper
780—Wiping Paper
780—Yellow Waybill Copying
also 630

781—Machine Glazed Sulphite or M. G. Manila

782—Drab Sealing Paper
also 780, 783

783—Drab Sealing Paper
also 780, 782
783—Duplex Wrapping
also 733, 743
783—Sealing Wrappers
also 730, 733, 740, 743, 780

784—Bag Liners
also 720, 730, 768, 774, 780
784—Milk-Bottle Paper
also 944
784—Waterproofed Cartridge Paper
also 734

785—Adhesive Tape
also 725, 735
785—Shirt-bands Paper (gummed)

787—Case Lining
also 730, 737, 774, 780
787—Hardware Paper
also 730, 737, 780

788—Anti-tarnish
also 730, 738, 780, 788
788—Cork Paper
788—Fly Paper
788—Mothproof Bags
also 738, 748

789—Barrel Liners
also 739, 749

7 WRAPPING

Class Number	Class Name	Basic Size and Weight	Specifications
70	Bogus Manila or Mill Wrapper	24"x36"—480 sheets; Following weights 40, 50, 60, 70, 80, 90, 100, 125, 150, 175, 200, 250, 300, 350 lbs.	.....
71	Cartridge	710, 714—24"x36"—480 sheets; 50, 60, 70, 80 lbs. 712, 713, in 3 to 5 ply—11x14, 15 lbs., 500 sheets	.....
72	Glassine	24"x36"—500 sheets; 15, 18, 20, 22, 25, 30 lbs.	.....
73	Kraft	24"x36"—480 sheets; Following weights 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100, 125 lbs.	.....
74	Rope	24"x36"—480 sheets—Following weights 30, 40, 50, 60, 70, 80, 90, 100, 140 lbs.	.....
75	Straw or Semi-Chemical	24"x36"—480 sheets—60, 70, 80, 90, 100 lbs.	.....
76	Vegetable Parchment Base	24"x36"—480 sheets—20, 25, 30, 40, 50, 60 lbs.	.....
77	Waxing Base	24"x36"—480 sheets—7, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60 lbs.	.....
78	Wood Manila	24"x36"—480 sheets—15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100, 125 lbs.	.....
79			.....

Type 8—Writing Paper

(Numbers 800 to 896 inclusive)

WRITING: This term is applied to that group of papers used primarily for writing purposes, which requires suitability for pen and ink use and includes all those papers recognized as record papers for use in our present modern civilization.

There are ten major subdivisions or Classes of Writing Papers as follows:

Bond
Chart or Map
Drawing
Envelope
Fines, Flats and Linens
Ledger
Manifold
Papeterie and Wedding
Parchment Deed
Safety

Each Class may be subdivided into nine groups called Kinds as follows:

Plain or Machine Dried
Tub Sized and Machine Dried
Tub Sized and Barber, Slat, Festoon, or Loft Dried
Pasted from Rolls or Sheets
Clay Coated
Gummed
Chemically Treated
Cloth Lined
Handmade

The following portion of the main chart will show this more in detail:

	0—Bond	0—Plain or Machine Dried
	1—Chart or Map	1—Tub Sized and Machine Dried
	2—Drawing	2—Tub Sized and Barber, Slat, Festoon, or Loft Dried
	3—Envelope	3—Pasted from Rolls or Sheets
8—WRITING	4—Fines, Flats and Linens	4—Clay Coated
	5—Ledger	5—Gummed
	6—Manifold	6—Chemically Treated
	7—Papeterie and Wedding	7—Cloth Lined
	8—Parchment Deed	8—Handmade
	9—Safety	9—

The following list of names has been arranged and cross-indexed, under a series of numbers, to show all names of papers that refer to the same basic product.

80
800—Adding Machine Paper
also 120, 520, 830
800—Alkali—Proof Paper
also 100, 780
800—Book Lining
also 120, 500, 780
800—Baking Cups
also 170, 830, 850
800—Barber's Head Rest Paper
also 120, 520, 680, 681, 830
800—Billing Machine Paper
800—Bill Paper
800—Binders Waste
also 120, 170, 410, 500, 780
800—Blue Print Paper, Unsensitized
also 801, 802
800—Bond
also 801, 802, 808
800—Book Ends
also 120, 170, 410, 500, 780
800—Bread Labels
also 120
800—Brown Print Paper
also 801, 802
800—Cake Laces
800—Cash Register Paper
also 120, 520
800—Cash Sales Pads
also 120, 500
800—Check Paper
also 890, 896
800—Chemical Manila Writing
also 500, 790
800—Chop Holders
800—Cigarette Mouthpiece Paper
also 100, 780

800—Circulars
also 120, 130, 140, 170, 190
800—Computing Machine Paper
also 120, 520, 780
800—Commercial Writings
also 830, 840
800—Containers, Sanitary
also 170, 850
800—Correspondence Paper
also 840, 870
800—Cross-Section Paper
also 801, 802
800—Dental Head Rest
also 120, 520, 680, 681, 830
800—End Leaf Sheet
also 120, 170, 410, 500, 780
800—End Leaves
also 120, 170, 410, 500, 780
800—End Paper
also 120, 170, 410, 500, 780
800—Envelope Stuffer
also 120, 500
800—Finger Board Liner
800—Fly Leaf
also 120, 170, 410, 500, 780
800—Insert
also 120, 130, 140
800—Intaglio Paper
also 120, 160
800—Jelly Protectors
also 720, 768, 774, 780
800—Keyboard Paper
also 100, 730, 740, 780
800—Lace Paper Stock
also 100
800—Letter Paper
also 780, 840

PRINCIPAL COMBINATIONS OF THE WRITING GROUP

8 WRITING	0 Pain or Machine Dried	1 Tub Sized and Machine Dried	2 Tub Sized and Air or Loft Dried	3 Pasted in Rolls or Sheets	4 Clay Coated	5 Gummed	6 Chemically Treated	7 Lined	8 Handmade	9
80 Bond	800	801	802	...	804	805	806	...	808	...
81 Chart or Map	810	811	812	813	...	...	...	817	818	...
82 Drawing	820	821	822	823	...	...	...	827	828	...
83 Envelope	830	831	832	833	834	835	...	837	838	...
84 Fines, Flats or Linens	840	841	842	843	844	845	...	...	848	...
85 Ledger	850	851	852	853	...	...	...	857	858	...
86 Manifold	860	861	862	...	...	...	866	...	...	...
87 Papeterie and Wedding	870	871	872	873	...	...	...	...	878	...
88 Parchment Deed	880	881	882	...	...	...	...	...	888	...
89 Safety	890	891	892	...	...	...	896	...	...	...

14

of the

LEADERS

among

EAGLE-A PAPERS

representing

Quality • Value
Painstaking manufacture

Coupon Bond
Contract Bond
Acceptance Bond
Trojan Bond
American Embossed Cover
Herculean Cover
Riverdale Cover
American Eggshell Text
Account Linen Ledger
Acceptance Ledger
Delta Mimeograph
Quality Manifold
Dickinson Offset
Darien Index Bristol

DISTRIBUTION IN EVERY LARGE CITY

MARK OF QUALITY-STANDARDS

AMERICAN WRITING PAPER COMPANY
INCORPORATED
HOLYOKE - MASSACHUSETTS

Nashua

SERVICE PRODUCTION NASHUA QUALITY

Coated Papers
Velour Papers
Metallic Papers
Embossed Papers
Trade Mark Papers
Gummed Papers
Gummed Tape
Waxed Papers
Rolled Leaf

NASHUA GUMMED & COATED PAPER COMPANY
Nashua, New Hampshire

Mills at
Nashua, New Hampshire Peterboro, Ontario, Canada

800—Lunch Sets
also 120
800—Monotype Keyboard Paper
also 100, 730, 740, 780
800—Profile Paper
also 801, 802
800—Ribbon Paper
also 100
800—Salesbook Paper
also 120
800—Second Sheets
also 120, 500
800—Shelf Paper
also 120
800—Sketching Paper
also 820
800—Soap Wrappers
also 100, 120, 780
800—Stenotype Paper
also 120
800—Sulphite Bond
800—Syphon Recorder Paper
also 780
800—Table Cloths, Paper
800—Table Covers
800—Tablet Paper
also 120, 500, 520, 780
800—Tablet Writing
800—Telephone Memo
800—Ticker Paper
also 120, 500
800—Ticker Tape
also 120, 500
800—Typewriter Paper
also 801, 802, 840, 860, 870
800—Typewriting Paper
also 801, 802, 840, 860, 870

801—Blue Print Paper Unsensitized
also 800, 802
801—Bonds
also 801, 802, 808
801—Brown Print Paper
also 800, 802
801—Cross-Section Paper
also 800, 802
801—Profile Paper
also 800, 802
801—Typewriter Paper
also 800, 802, 840, 860, 870
801—Typewriting Paper
also 800, 802, 840, 860, 870

802—Bank Note Paper
also 808
802—Blue Print Paper Unsensitized
also 800, 801
802—Bond
also 800, 801, 808
802—Brown Print Paper
also 800, 801
802—Cross-Section Paper
also 800, 801
802—Extra Fine Writing
also 842, 872
802—Profile Paper
also 800, 801
802—Typewriter Paper
also 800, 801, 840, 860, 870
802—Typewriting Paper
also 800, 801, 840, 860, 870

805—Adhesive Tape
also 105, 725, 735, 785
805—Gummed Paper
also 105

806—Blue Print Paper, Sensitized
806—Indicator Cards
also 800
806—Indicator Paper
also 800
806—Tracing Paper
also 866
808—Bank Note Paper
also 802
808—Bond
also 800, 801, 802
808—Extra Fine Writing
also 802, 842, 872

81

810—Chart Paper
also 811, 812, 817
810—Map Paper
also 811, 812, 817
810—Steel Plate Paper
also 200, 210, 850

811—Chart Paper
also 810, 812, 817
811—Map Paper
also 810, 812, 817

812—Chart Paper
also 810, 811, 817
812—Map Paper
also 810, 811, 817

817—Chart Paper
also 810, 811, 812
817—Cloth Lined Paper
also 107, 137, 427, 437, 737, 817, 827, 837, 857
817—Map Paper
also 810, 811, 812

82

820—Charcoal Drawing Paper
also 821, 822, 828
820—Crayon Paper
also 821, 822, 828
820—Detail Drawing Paper
also 821, 822, 828
820—Detail Paper
also 821, 822, 828
820—Drafting Paper
also 821, 822, 828
820—Drawing Paper
also 821, 822, 828
820—Etching Board
also 823
820—Geography Paper
also 120
820—School Drawing Paper
820—Sketching Paper
also 800
820—Water Color Paper
also 821, 822, 828

821—Charcoal Drawing Paper
also 820, 822, 828
821—Crayon Paper
also 820, 822, 828
821—Detail Drawing Paper
also 820, 822, 828
821—Detail Paper
also 820, 822, 828
821—Drafting Paper
also 820, 822, 828
821—Drawing Paper
also 820, 822, 828
821—Water Color Paper
also 820, 822, 828

822—Charcoal Drawing Paper
also 820, 821, 828
822—Crayon Paper
also 820, 821, 828
822—Detail Drawing Paper
also 820, 821, 828
822—Detail Paper
also 820, 821, 828
822—Drafting Paper
also 820, 821, 828
822—Drawing Paper
also 820, 821, 828
822—Water Color Paper
also 820, 821, 828

823—Drawing Board
823—Etching Board
also 820

827—Cloth Lined Paper
also 107, 137, 427, 437, 737, 817, 827, 837, 857

828—Charcoal Drawing Paper
also 820, 821, 822
828—Crayon Paper
also 820, 821, 822
828—Detail Drawing Paper
also 820, 821, 822
828—Detail Paper
also 820, 821, 822
828—Drafting Paper
also 820, 821, 822
828—Drawing Paper
also 820, 821, 822
828—Water Color Paper
also 820, 821, 822

83

830—Adding Machine Paper
also 120, 520, 800
830—Baking Cups
also 170, 800, 850
830—Barber's Head Rest Paper
also 120, 520, 680, 681, 800, 830
830—Commercial Writing
also 800, 840
830—Dental Head Rest Paper
also 120, 520, 680, 681, 800
830—Doilies, Paper
also 120, 800
830—Envelope Paper
830—Esparto Paper
also 120, 840
830—Jute Envelope Paper
830—Kraft Envelope Paper
830—Rope Envelope Paper

837—Cloth Lined Paper
also 107, 137, 427, 437, 737, 817, 827, 837, 857

84

840—Amber Laid
also 841
840—Azure Laid or Azure Laid Writing
840—Azure Wave or Azure Wave Writing
840—Canary Writing
840—Commercial Writings
also 800, 830
840—Correspondence Paper
also 800, 870
840—Cream Laid
840—Esparto Paper
also 120, 830
840—Fine Paper
also 841, 842
840—Fines
also 841, 842
840—Fine Writings
also 841, 842
840—Folded Writings
also 870
840—Laid Writing
840—Letter Paper
also 780, 800
840—Note Paper
also 870
840—Typewriter Paper
also 800, 801, 802, 860, 870
840—Typewriting Paper
also 800, 801, 802, 860, 870
840—Superfine Writing

841—Amber Laid
also 840
841—Fine Writings
also 840, 842
841—Fine Papers
also 840, 842
841—Fines
also 840, 842

842—Extra Fine Writing
also 802, 872
842—Fine Writing
also 840, 841
842—Fine Paper
also 840, 841
842—Fines
also 840, 841

85

850—Account Book Paper
also 851, 852
850—Baking Cups
also 170, 800, 830
850—Banks
also 851, 852
850—Blank Book Paper
also 851, 852
850—Bonbon Cup
850—Bookkeeping Machine Paper
also 851, 852
850—Charlotte Russe Cup
850—Cones, Paper
850—Containers, Sanitary
also 170, 800
850—Collar Paper
also 210
850—Cream Cups
850—Cup Paper
850—Drinking Cup Paper
also 170
850—Herbarium Paper
also 851, 852
850—Hinged Ledger
also 851, 852
850—Ivory Paper
also 854
850—Ledger
also 851, 852
850—Linen Ledger
also 851, 852
850—Loose Leaf Ledger
also 851, 852
850—Soufflé Cups
also 170
850—Sputum Cups
also 170
850—Steel Plate Paper
also 210, 810
850—Sundae Dishes
also 170

851—Account Book Paper
also 850, 852
851—Banks
also 850, 852
851—Blank Book Paper
also 850, 852
851—Bookkeeping Machine Paper
also 850, 852
851—Herbarium Paper
also 850, 852
851—Hinged Ledger
also 850, 852
851—Ledger
also 850, 852
851—Linen Ledger
also 850, 852
851—Loose Leaf Ledger
also 850, 852

852—Account Book Paper
also 850, 851
852—Banks
also 850, 851
852—Blank Book Paper
also 850, 851
852—Bookkeeping Machine Paper
also 850, 851
852—Herbarium Paper
also 850, 851
852—Hinged Ledger
also 850, 851
852—Ledger
also 850, 851
852—Linen Ledger
also 850, 851
852—Loose Leaf Ledger
also 850, 851

854—Ivory Paper
also 850

857—Cloth Lined Paper
also 107, 137, 427, 437, 737, 817, 827, 837, 857

86

860—Duplicating Paper
also 150, 630
860—Flowers, Paper
also 690
860—French Folio
860—Onion Skin
860—Typewriter Manifold
860—Typewriter Paper
also 800, 801, 802, 840, 870
860—Typewriting Paper
also 800, 801, 802, 840, 870

866—Tracing Paper
also 806

87

870—Announcements
also 120, 121, 122, 190, 191, 192, 430, 870, 871, 872, 873, 878
870—Correspondence Paper
also 800, 840
870—Folded Writings
also 840
870—Note Paper
also 840
870—Papeterie Paper
870—Typewriter Paper
also 800, 801, 802, 840, 860
870—Typewriting Paper
also 800, 801, 802, 840, 860
870—Weddings
also 871, 872, 873

871—Announcements
also 120, 121, 122, 190, 191, 192, 430, 870, 872, 873, 878
871—Weddings
also 870, 872, 873

872—Announcements
also 120, 121, 122, 190, 191, 192, 430, 870, 871, 873, 878
872—Extra Fine Writings
also 802, 842
872—Weddings
also 871, 872, 873
873—Announcements
also 120, 121, 122, 190, 191, 192, 430, 870, 871, 872, 878
873—Weddings
also 870, 871, 872

878—Announcements
also 120, 121, 122, 190, 191, 192, 430, 870, 871, 872, 873

88

880—Artificial Parchment
also 881, 882
880—Imitation Parchment
also 720, 780, 881, 882
880—Parchment Paper
also 768
880—Vellum Paper
also 881, 882
880—Parchment Deed
also 881, 882

881—Artificial Parchment
also 880, 882
881—Imitation Parchment
also 720, 780, 881, 882
881—Parchment Paper
also 768
881—Vellum Paper
also 881, 882
881—Parchment Deed
also 880, 882

882—Artificial Parchment
also 880, 881
882—Imitation Parchment
also 720, 780, 881, 882
882—Parchment Paper
also 768
882—Vellum Paper
also 880, 881
882—Parchment Deed
also 880, 881

89

890—Check Paper
also 800, 896
890—Safety Check Paper
also 800, 896
890—Safety Paper
also 800, 896

896—Check Paper
also 800, 890
896—Safety Check Paper
also 800, 890
896—Safety Paper
also 800, 890

TAPPI Section, Page 103

THE MEAD CORPORATION

Founded in 1846

A SERVICE TO THE TRADE THAT WAS ESTABLISHED IN 1855

HUBBS & HOWE COMPANY
BUFFALO, N. Y.

CHARLES F. HUBBS & CO.
NEW YORK, N. Y.

HUBBS & CORNING CO.
BALTIMORE, MD.

HUBBS & HASTINGS PAPER CO.
ROCHESTER, N. Y.

CHARLES F. HUBBS & CO.
TROY, N. Y.

HUBBS & HOWE COMPANY
CLEVELAND, OHIO

VICTORIA PAPER & TWINE CO.
TORONTO, CANADA

CHARLES F. HUBBS & CO.
CAMBRIDGE, MASS.

VICTORIA PAPER & TWINE CO.
MONTREAL, CANADA

INTERSTATE CORDAGE & PAPER CO., PITTSBURGH, PA.

PAPER — PAPER PRODUCTS — TWINE

Type 9—Industrial Papers

(Numbers 900 to 966 inclusive)

INDUSTRIAL. This term applies to that group of papers produced for use in industries other than the paper industry where the finished product of the paper mill becomes a raw material in some other industry. This group is neither written or printed on and is used primarily for chemical and mechanical purposes.

There are seven major subdivisions or Classes of Industrial Papers as follows:

Absorbent Process
Calender and Embossing Rolls
Chemical Processes
Electrical Processes
Molded Products
Printing Processes (not printed)
Sensitizing Processes

Each Class may be subdivided into ten groups called Kinds as follows:

Plain or Untreated
Chemically Treated
Chemically Treated and Impregnated
Clay Coated
Impregnated
Creped
Special Coating
Surface Sized
Pasted to Special Material
Embossed

The following portion of the main chart will show this more in detail:

	0—Absorbent Process	0—Plain or Untreated
	1—Calender and Embossing Rolls	1—Chemically Treated
	2—Chemical Processes	2—Chemically Treated and Impregnated
	3—Electrical Processes	3—Clay Coated
9—INDUSTRIAL	4—Molded Products	4—Impregnated
	5—Printing Processes (not Printed)	5—Creped
	6—Sensitizing Processes	6—Special Coating
	7—	7—Surface Sized
	8—	8—Pasted to Special Material
	9—	9—Embossed

The following list of names has been arranged and cross-indexed, under a series of numbers, to show all names of papers that refer to the same basic product.

90

900—Absorbent Paper
900—Blotting
900—Chemical Filter Paper
also 901
900—Combs, Paper
also 901, 920, 921
900—Commercial Blotting
900—Decorated Blotting
900—Dental Sanitary Paper
also 905
900—Drying Paper
900—Duplex Blotting
900—Filter Paper
900—Interleaving Paper
also 730, 780
900—Krafelt
also 921
900—Plant Dryer
900—Red Matrix Paper
900—Red Rag Blotting
900—Seed-Germination Paper
also 310
900—Starch Paper
900—Tablet Blotting
900—Waterleaf Paper

901—Artificial Leather
also 902
901—Chemical Filter Paper
also 900
901—Combs, Paper
also 010, 070, 900, 920, 921
901—Litmus Paper

902—Artificial Leather
also 901
902—Fly Paper
also 788

903—Enameled Blotting

905—Dental Sanitary Paper
also 900
905—Sanitary Pads

909—Embossed Blotting

91

910—Calender Roll Paper
910—Embossing Roll Paper

92

920—Combs, Paper
also 010, 070, 900, 901, 921
920—Gasket Stock
also 040, 748
920—Nitrating Paper
920—Vulcanizing Paper

921—Combs, Paper
also 010, 070, 900, 901, 920
921—Fiber Board
also 030, 070
921—Fiber, Hard
921—Fiber Panels
also 030, 070
921—Hard Fiber
921—Ice-Cream Spoons
921—Krafelt
also 900
921—Vulcanized Fiber
921—Vulcanized Paper
921—Willesden Paper

924—Panel Board

93

930—Insulating Board
also 300, 310, 326, 330, 340, 345, 931, 934

931—Electrical Board
931—Insulating Board
also 300, 310, 326, 330, 340, 345, 930, 934

934—Fish Paper
also 738
934—Insulating Paper
also 300, 310, 326, 330, 340, 345, 930, 931

94

940—Florist's Pots
940—Jardinières, Paper
940—Jars, Paper
940—Linenoid
940—Papiermaché
940—Pulp Barrels
940—Sand Pail, Paper
also 016
940—Trays, Paper
also 010, 020, 026

941—Spoons, Paper
also 070, 780

942—Pails, Paper
also 050, 056

944—Milk Bottle, Paper
also 784

95

950—Dry Mats
also 956
950—Matrix Paper
also 956
950—Stereo Matrix Mat
also 956

954—Tympan Paper

956—Dry Mat
also 950
956—Decalcomania Paper
also 105, 805, 956, 958
956—Matrix Paper
also 950
956—Stereo Matrix Mat
also 950

958—Decalcomania Paper
also 105, 805, 956, 958

96

960—Black Line Paper
960—Cameragraph Paper
960—Photographic Paper
960—Sensitizing Paper

961—Bromide Photographic Paper
961—Brown Process Paper
961—Developing Paper
961—Erectograph Paper
961—Negative Photographic Paper
961—Photo-Copying Paper
961—Photographic Paper
961—Photostat Paper
961—Platinum Paper
961—Posotype Paper
961—Printing Out Paper
961—Solar Bromide Paper
961—White-Print Paper, Sensitized
961—Vandyke Paper

966—Albuminized Paper

ALPHABETICAL RECAPITULATION

A

Abrasive Paper (Base Stock), 740, 748.
Absorbent Paper, 900.
Account Book Paper, 850, 851, 852.
Acid Proof Paper, 738.
Acid Proof Asbestos Board, 303.
Adding Machine Paper, 120, 520, 800, 830.
Address Label Paper, 630, 634.
Adhesive Glassine Tape, 725.
Advertising Stickers, 125, 135.
Adhesive Tape, 105, 725, 735, 785, 805.
Album Board, 000, 001, 002, 005.
Album Paper, 450.
Albuminized Paper, 966.
Alkali-Proof Paper, 100, 780, 800.
Amber Laid, 840, 841.
Ammunition Paper (See Cartridge Paper), 710, 712, 713.
Announcements, 120, 121, 122, 190, 191, 192, 430, 870, (871, 2, 3, 8).
Anti-Acid Manila, 738.
Anti-Tarnish Paper, 690, 692, 694, 730, 737, 738, 780, 788, 790, 797.
Anti-Tarnish Tissues, 690, 692, 694.
Antique Book Paper, 120, 170, 190.
Antique Cover Paper, 420, 430.
Art Cover, 120, 130, 140.
Art Paper, 120, 130, 140.
Artificial Leather, 901, 902.
Artificial Parchment, 880, 881, 882.
Artists Illustration Board, 000, 001, 002, 005.
Asbestos Lumber, 308.
Asbestos-Millboard, 308.
Asbestos-Paper, 300.
Autographic, 440, 441.
Automobile Covers (See Automobile Storage Bags), 730.
Automobile Storage Bags, 730, 737.
Automobile Tire Rolls, 730, 737.
Automobile Tire Wraps (See Automobile Tire Rolls), 730.
Azure Wave or Azure Wave Writing, 840.
Azure Laid or Azure Laid Writing, 840.

B

Backing Board, 010.
Backing Paper, 400, 410.
Back Lining, 120, 500, 780, 800.
Bag Papers, 720, 730, 740, 744, 746, 768, 780.
Baggage Tags, 210, 230.
Bag Liners (Glassine Papers, also), 720, 730, 768, 774, 780, 784.
Baking Cups, 170, 800, 830, 850.
Baling Paper, 700.
Balsa-Wool (Patented products and trade name), 345.
Bandages-Paper, 680, 687.
Banks, 850, 851, 852.
Bank Note Paper, 802, 808.
Barbers' Head Rest Paper, 120, 520, 680, 681, 800, 830.
Barrel Liners, 739, 749, 789.
Base for Coating, Gumming and Pasting, 100.
Beaming Paper, 730, 731, 733, 780, 781, 783.
Bedstead Wrapping Rolls, 730, 780.
Beer Plaques, 020, 025, 026.
Bells, Paper, 691.

PRINCIPAL COMBINATIONS OF THE INDUSTRIAL GROUP

9 INDUSTRIAL	0 Plain or Untreated	1 Chemically Treated	2 Chemically Treated and Impregnated	3 Clay Coated	4 Impregnated	5 Creped	6 Special Coating	7 Surface Sized	8 Pasted to Special Material	9 Embossed
90 Absorbent Process	903	901	902	903	904	905	...	...	...	909
91 Calender and Embossing Rolls	910	...	...	...	...	...	...	...	...	...
92 Chemical Processes	920	921	922	...	924	925	...	...	...	...
93 Electrical Processes	930	...	...	...	934	...	...	...	...	...
94 Moulded Products	940	...	...	...	944	...	...	...	...	...
95 Printing Processes (not printed)	950	...	...	953	954	...	956	...	...	...
96 Sensitizing Processes	960	...	...	...	...	...	966	967	...	...
97	...	...	...	...	...	...	...	...	...	...
98	...	...	...	...	...	...	...	...	...	...
99	...	...	...	...	...	...	...	...	...	...

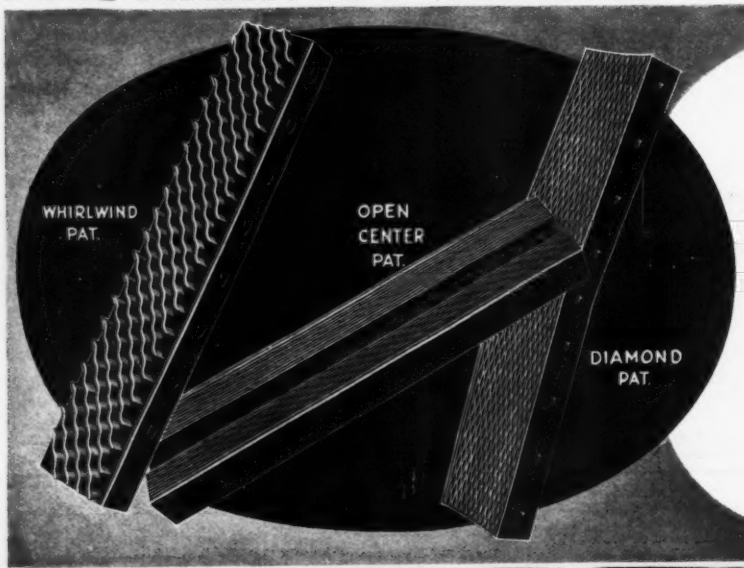
NOW IS THE TIME TO ANTICIPATE BUSY DAYS

As more and more mills from Coast to Coast pick up a growing production load, TENAX FELTS continue to satisfy the requirements of alert superintendents,—who keep abreast of changing demands—who have learned to rely on TENAX FELTS.

"Non-users Are The Losers"

LOCKPORT FELT COMPANY
NEWFANE, N. Y.

FOR MAXIMUM BEATER PERFORMANCE



Adopt SSW bed plates and bars. The line is complete—contains exactly what you require.

***Beater Bars*—Dowd staggered type (pat.), Simonds-Dayton corrugated type, Simonds-Dayton vented type—and all other standard sections.**

***Stainless steel and bronze bar* qualities forged for all types and styles of beater rolls.**

***Bed Plates*—all standard patterns—whirlwind, open center and diamond.**

Paper trimming knives*—*Chipper knives, etc.

Address all communications to Dayton.

SIMONDS WORDEN WHITE CO.

OFFICE
DAYTON, OHIO

SWWCo SWWCo

Factories at DAYTON - BUFFALO - CLEVELAND - BELOIT

Berry Boxes, 050, 056, 057.
Berry Pails, 050, 056, 057.
Bible Paper, 110.
Billing Machine Paper, 800.
Bill Paper, 800.
Bill Straps, 730, 740.
Binder Board, 010, 018.
Binders Waste, 120, 170, 410, 500, 780, 800.
Binding Tape-Paper, for Lantern Slides, 410.
Black Line Paper, 960.
Black Paper, 410, 430, 690, 730.
Black Photo Paper, 440.
Black Wrapping Paper, 690, 730.
Blankets, Paper, 768.
Blank Book Paper, 850, 851, 852.
Blanks, 050, 051, 052, 061, 062, 064, also 210.
Blasting Paper, 780.
Bleached Manila Lined Chip Board, 011, 012.
Blotting, 900.
Blue Print Paper (Sensitized), 806.
Blue-Print Paper (Unsensitized), 800, 801, 802.
Bogus Bristol, 210.
Bogus Duplex, 703.
Bogus Manila, 700.
Bogus Wrapping, 700.
Bonbon Cup, 850.
Bonds, 800, 801, 802, 808.
Book Ends, 120, 170, 410, 500, 780, 800.
Bookkeeping Machine Paper, 850, 851, 852.
Booklet Cover, 430.
Book Paper, 120, 170, 190.
Book Wrapping Paper, 730, 780.
Book Wrapper, 730, 780.
Bottle Caps, 050, 057.
Bottle Packing Paper, 019, 089.
Bottles, Paper, 050, 056.
Bottle Wrapping Paper, 010, 019, 080, 089, 690, 790.
Box and Barrel Layers, 010, 013, 019, 083, 089.
Boxboard, 010.
Box Cover, 400, 410.
Box Enamel, 130.
Box Stay, 730, 780.
Bread Labels, 120, 800.
Bread Wrappers, 692.
Bromide Photographic Paper, 961.
Brown Print Paper, 800, 801, 802.
Brown Process Paper (Sensitized), 961.
Brush Finish Coated Papers, 130, 140.
Buggy Board, 090, 098.
Burlap-lined Paper, 737.
Button Board, 010, 011, 012, 050, 051, 052, 058.
Butchers Manila, 700.
Butchers Wrapping, 700, 780.
Butter and Lard Wraps (Printed), 768.
Butter Cartons, 050, 051, 052.
Butter Dishes, 050, 051, 052.
Butter Paper, 768.

C

Cable Paper, 730, 740.
Cake Board, 010, 050.
Cake Boxes, 010, 011, 012, 050, 051, 052.
Cake Circles, 010, 050, 780.
Cake Laces, 800.
Calender Roll Paper, 910.
Cambridge Bible Paper, 110.
Cameragraph Paper, 960.
Canary Writing, 840.
Candle Paper, 010, 700.
Candy Bags, 780.
Candy Pails, 050, 051, 052.
Canisters, Paper, 010, 011, 012.
Candle Paper, 700, 780.
Cans, Paper, 010, 011, 012.
Caps—Milk Bottle, 050, 051.
Cap Tubes, 015, 016.
Cap Tube Board, 010.
Carbon Paper, 600.
Carbon Paper—Coated, 603
Carbon Tissue, 600.
Carbonizing Paper, 600.
Carbonizing Tissue, 600.
Carborundum Paper (See under Abrasive Paper), 740, 748.
Cardboard, 010, 011, 012.
Card Index Bristol, 200.
Car Lining, 340, 343, 700, 740.
Car Sign, 064.
Card Middles, 020.
Carpet Felt, 310.
Carpet Lining, 340, 345, 349.
Carpet Yarns, 660.
Carriage Panel, 010, 017.
Carton, 010, 050.
Cartridge Paper, 710, 712, 713.
Case Lining, 730, 737, 774, 780, 787.
Cash Register Paper, 120, 520, 800.
Cash Sales Pads, 120, 500, 800.
Catalogue Envelope, 730, 731, 740, 743, 780, 800.
Catalogue Newsprint, 500.
Catalogue Paper, 120, 130, 140, 190, 500.
Cellular Board, 083.
Cement Sack Paper, 730.
Chair Seat Board, 090, 098.
Chalk Overlay Paper, 141.
Charcoal Drawing Paper, 820, 821, 822, 828.
Charlotte Russe Cups, 850.
Chart Paper, 810, 811, 812, 817.
Check Book Cover, 015.
Check Paper, 800, 890, 896.
Chemical Filter Paper, 900, 901.
Chemical Manila Writing, 500, 790, 800.
Chest Protector, 730, 780.
Cheviot, 400.
China Board, 061, 062.
Chip Board, 010.
Chip, Filled, 011, 012.
Chip, Solid, 010.
Chocolate Dividers, 011, 012.
Chocolate Layer Board, 011, 012.
Chop Holders, 800.
Chromatic Paper, 400.
Chromo Papers, 130, 140.
Cigar Boxes, 011, 012.
Cigar Holders, 011, 012.
Cigar Labels, 130, 136.
Cigarette (See Cigarette Tissue), 610.
Cigarette Mouthpiece Paper, 100, 780, 800.
Cigarette Tissue, 610.
Circulars (1-page catalogues), 120, 130, 140, 170, 190, 800.
Clay Coated Manila Board, 054.
Clay Coated One Side, 130.
Clay Coated Two Sides, 140.
Clasp Envelopes (See Rope Wrapping Plain, 740); (See Wood Manila Plain, 780); 730.
Cloth Board, 010, 011, 012.
Cloth Lined Paper, 107, 137, 427, 437, 737, 817, 827, 837, 857.
Clothing Boxboard, 011, 012.
Coated, 130, 140.
Coated Blanks, 014, 064.
Coated Boxboard, 014, 064.
Coated Carbon Paper, 603.
Coated Cover Paper, 405.
Coated Litho Blanks, 216.
Coated Printing Paper, 130, 140.
Coating Paper, 100.
Coffee Bags, 730, 780.
Coin Cards, 210.
Collar Paper, 210, 850.
Colored Poster Paper, 500.
Combs, Paper, 010, 070, 900, 901, 920, 921.
Combination Board, 011, 012, 014, 051, 052, 054, 061, 062, 064.
Combination Boxboard, 011, 012, 014, 051, 052, 054, 061, 062, 064.
Combination Cardboard, 011, 012, 014, 051, 053, 054, 061, 062, 064.
Commercial Blotting, 900.
Commercial Tissues, 690.
Commercial Writings, 800, 830, 840.
Computing Machine Paper, 100, 520, 780, 800.
Condenser Paper, 620.
Condenser Tissue, 620.
Cones, Paper, 010, 170, 780, 850.
Confetti, 500, 690.
Construction Paper, 120, 500.
Container Board, 010, 011, 012.
Container Liner, 011, 012.
Containers, Sanitary, 170, 800, 850.
Copying Tissue, 630.
Cores, Paper, 700, 750.
Core Stock (Bogus Manila Wrapping, also 750), 700.
Correspondence Paper, 800, 840, 870.
Corrugated Board, 089.
Corrugated Container Board, 013.
Corrugated Paper, 019.
Corrugated Straw Wrapping, 759.
Cork Paper, 748, 788.
Cotton Batting, 780.
Cotton Sampling, 730, 740, 780.
Counter Board, 030.
Cracker Shell Board, 010.
Crayon Paper, 820, 821, 822, 828.
Cream Cups, 850.
Cream Laid, 840.
Creped Kraft, 739.
Crepe Tissue, 690, 691.
Crocus Paper (See under Abrasive Paper), 740, 748.
Cross-Section Paper, 800, 801, 802.
Cup Paper, 850.
Currency Straps, 740.
Cuspidors, Paper, 051, 052, 056.
Cutlery Paper, 690, 730.

D

Double Coated Printing Paper, 140.
Deadening Felt, 310.
Decalcomania Paper, 105, 805, 956, 958.
Decorated Blottings, 900.
Dental Head Rest, 120, 520, 680, 681, 800, 830.
Dental Sanitary Paper, 900, 905.
Dermatype Stencil Paper, 633.
Designers' Pattern Paper, 730, 740, 780.
Drawing Paper (Detail Drawing Paper), 820, 821, 822, 828.
Detail Paper, White, 820, 821, 822, 828.
Developing (Photographic) Paper, 961.
Diapers, Paper, 680, 681.
Die Wiping Paper, 730, 739, 740, 749, 780, 789.
Dish Cloths, Paper, 768.
Dishes, Paper, 010, 016, 020, 026.
Dobby Board, 070.
Document Envelopes (See Clasp Envelopes), 730, 740, 780.
Document Files (See Document Envelopes), 730, 740, 780.
Document Guides, 200, 210.
Document Manila, 730, 740, 780.
Dodgers, 120, 500, 520.
Doilies, Paper, 120, 800, 830.
Dolls, Paper, 010, 011, 012.
Double Feather Edge Strawboard, 080.
Double Manila Lined Chip Board, 012.
Double Manila Lined News Board, 012.
Drab Sealing Paper, 780, 782, 783.
Drafting Paper, 820, 821, 822, 828.
Drawing Board, 823.
Drawing Paper, 820, 821, 822, 828.
Drinking Cup Paper, 170, 850.
Druggists Wrapping, 730, 780.
Dry Felts, 310.
Dry Finish Sulphite Wrapping, 780.
Dry Mat, 950, 956.
Drying Paper, 900.
Dryproofing Paper, 120.
Dull Coated Printing Paper, 140.
Duplex Blotting, 900.
Duplex Board, 011, 012.
Duplex Wrapping, 733, 743, 783.
Duplicating Paper, 150, 630, 860.
Duplicating Stencil Paper, 633.
Duplicating Tissues, 630.
Dynamite Paper, 780.

E

Easel Board, 061, 062.
Egg Carriers, 016, 083, 089.
Egg Cartons, 010, 016.
Eggshell Book Paper, 120.
Egg Case Filler Board, 080, 089.
Egg Trays, 080, 083, 089.
Electrical Board, 931.
Electrical Cable Filling Paper, 730, 740.
Electrical Conduit Twines, 730, 740.
Embossed Blotting, 909.
Embossing Paper, 120, 170.
Embossing Roll Paper, 910.
Emery Paper (See Abrasive Paper), 740, 748.
Enameled Blotting, 903.
Enameled Book Paper, 130, 140.
Enameled Post Card, 216.
End Leaf Sheet, 120, 170, 410, 500, 780, 800.
End Leaves, 120, 170, 410, 500, 780, 800.
End Paper, 120, 170, 410, 500, 780, 800.
English Finish Book Paper, 120.
Engravers' Bristol, 200, 240, 241, 242, 243, 244.
Engravers' Proving Paper, 130.
Envelope Paper, 830.
Envelope Stuffer, 120, 500, 800.
Erectograph Paper, 961.
Esparto Paper, 120, 830, 840.
Etching Board, 820, 823.
Expanding Envelopes, 730, 740, 780.
Express Wrapping, 700.
Extra Fine Writing, 802, 842, 872.

F

Fabrics Paper, 660.
Facing Paper, 410.
Felts, 310.
Felts, Saturating, 310.
Fender Board, 030.
Fiber Board, 030, 070, 921.
Fiber, Hard, 921.
Fiber Leather (See Leather Board), 040.
Fiber Panels, 030, 070, 921.
Fiber Rug Paper, 660.
Fiber Shipping Containers, 010, 011, 012, 013.
File Backs, 210.
Files, Paperoid, 230.
Filled Jute Board, 011, 012.
Filled News Board, 011, 012.
Filled Pulp Board, 011, 012.
Filled Wood Pulp Board, 011, 012.
Filler Board, 011, 012, 051, 052.
Filter Paper, 900.
Fine Paper, 840, 841, 842.
Fines, 840, 841, 842.
Fine Writings, 840, 841, 842.
Finger Bowl Liner, 800.
Fireworks Paper, 100, 500.
Fish Paper, 738, 934.
Flat Wallets, 740.
Flat Wrappers, 700, 730, 740, 780.
Flexible Cover, 420, 430.
Flint Paper (See under Abrasive Paper), 740, 748.
Floor Felts, 310, 313, 314.
Florists' Pots, 940.
Flour Sacks, 740, 743, 746.
Flour Sack Paper, 740, 743, 746.
Flowers, Paper, 690, 860.
Flyers (See Dodgers), 120, 500, 520.
Fly Leaf, 120, 170, 410, 500, 780, 800.
Fly Paper, 310, 313, 788, 902.
Foil, 102.
Folded Writings, 840, 870.
Folders, Paper, 730, 740, 780.
Folders, Pressboard, 070.
Folding Boxboard, 010.
Folding Bristol, 200, 230.
Folding Coated, 130, 140.
Folding Translucents, 200.
Food Containers, 010, 011, 012, 050, 051, 052.
French Folio, 860.
Friction Board, 070.
Frisket Paper, 780.
Fruit Tissue, 690, 694.
Fruit Wrapping Tissue, 690, 694.
Fuller Board, 070.
Furniture Paper, 730, 780.
Furniture Wrapping, 730, 780.

G

Game Counters, 072, 074, 210.
Garment Containers, 012.
Garnet Paper (See under Abrasive Paper), 740, 748.
Gasket Stocks (See Hard Fiber and Leather Board), 040, 748, 920.
Gelatin Board, 170.
Geography Paper, 120, 820.
Glassine, 720.
Glassine, Embossed, 729.
Glassine Tape, 725.
Glassine Tape Gummed, 725.
Glassoid, 720.
Glazed Book Paper, 120.
Gold Paper, 102.
Grained Jute Board, 011, 012.
Granite Paper, 420, 430.
Gray Express, 700.
Greaseproof Paper, 720, 768, 780.
Greaseproof Wrapping, 720, 768, 780.
Grocery Bag Paper, 730, 780.
Grocery Paper, 730, 780.
Gross Bleached Tissue, 690.
Guide Card Stock, 200, 210, 230.
Gummed Paper, 105, 805.
Gummed Tape (See also Glassine Gummed, 725), 735.
Gun Wadding, 310.
Gusset Felt, 310.
Gypsum Plaster Board, 321.
Gypsum Wallboard, 321.

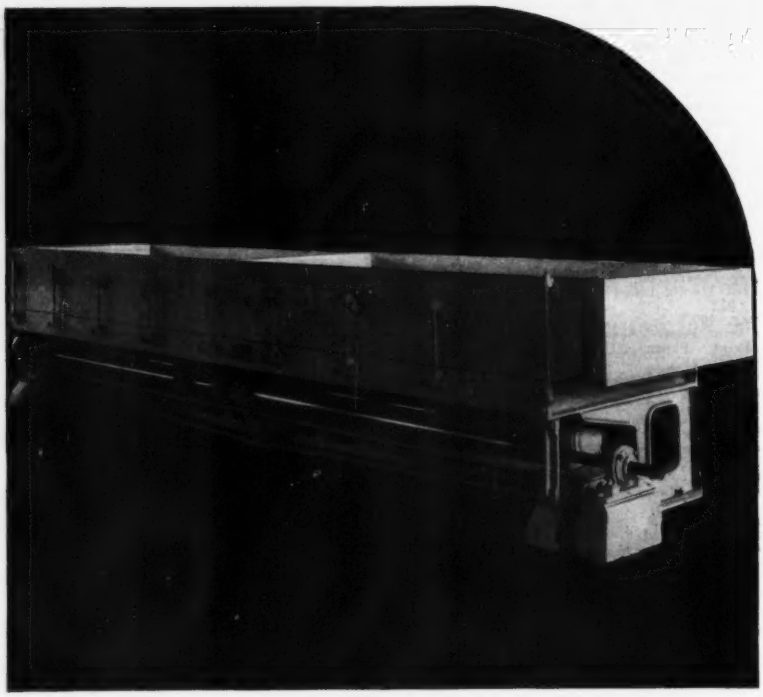
H

Halftone News, 500.
Halftone Paper, 120, 130, 140.
Ham Paper (Ham Wrap), 730, 768, 780.
Hangings, 510.
Hard Fiber, 921.
Hardware Paper, 730, 737, 780, 787.
Hats, Paper, 660.
Heavy Wrapper, 700.
Heeling Board, 030.
Herbarium Paper, 850, 851, 852.
Hinged Ledgers, 850, 851, 852.
Hosiery Paper, 690, 730, 790.

I

Ice Blanket, Paper, 768.
Ice-Cream Boxes, 050, 051, 052.
Ice-Cream Dishes, 050, 051, 052.
Ice-Cream Spoons, 921.
Imitation Jute Board, 011, 012.
Imitation Kraft, 780.
Imitation Leather, 040.
Imitation Parchment, 720, 780, 880, 881, 882.
Imperial Japanese Vellum, 250, 258.
Impression Paper, 120.
Indented Board, 019.
Index Board, 200.
Index Bristol, 200.
Index Card, 200, 210, 230.
India Litho Transfer Paper, 101.

SKF EQUIPPED
BUILT BY
IMPROVED
PAPER MACH.
COMPANY



TIME-TESTED SKF'S SPECIFIED FOR DEPENDABILITY

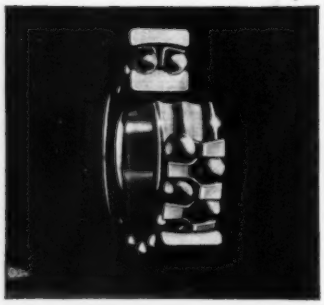
COMPLETELY EQUIPPED WITH SKF BEARINGS . . . this low-type "Impco" Flat Screen meets the test of . . . time . . . dependability . . . quality . . . in the paper manufacturing industry.

The improved Paper Machinery Corporation specifies SKF Bearings because of their outstanding qualification . . . *perfect performance* ALWAYS. No danger of dirt and moisture with SKF's . . . no worry over lubricant leakage . . . no adjustment at all.

SKF's are rugged without sacrifice of smooth operation . . . they maintain close tolerances resulting in stock that is uniformly refined . . . and can be held to a definite standard. What more can you ask of a bearing when it does all these things?

3176

●You may buy a bearing as a bargain but try and get a bargain out of using it, for nothing is apt to cost so much as a bearing that cost so little



SKF INDUSTRIES, INC., FRONT ST. and ERIE AVE., PHILADELPHIA, PA.

SKF

Ball and Roller Bearings

India Proof Paper, 101.
India Transfer Paper, 101.
Indicator Paper, 800, 806.
Industrial Tissues, 600 to 620, inc., 630, 640, 650, 660.
Ingrain Wall Papers, 511, 512.
Innersole Board, 030.
Insert, 120, 130, 140, 800.
Insulating Board, 300, 310, 326, 330, 340, 345, 930, 931, 934.
Insulating Tissue, 620, 624.
Intaglio Paper, 120, 160, 800.
Interleaving Paper, 730, 780, 900.
Ivory Board 022.
Ivory Paper for Memo Pads, 850, 854.

J

Jacquard Board, 080.
Jacquard Cards, 080.
Jacquards, 080.
Japanese Copying Paper, 630.
Japanese Vellum, 250, 258.
Jardinieres, Paper, 940.
Jars, Paper, 940.
Jar Tops, Paper, 020, 210.
Jelly Protectors, 720, 760, 768, 774, 780, 800.
Jute Bag Paper, 740.
Jute Bristol, 230.
Jute Board, 011, 012.
Jute Envelope Paper, 830.
Jute Manila Wrappings, 740.
Jute Imitations, 011, 012.
Jute Lined Chipboard, 011, 012.
Jute Lined Strawboard, 081, 082.
Jute Liners, 011, 012.
Jute Paper, 740.

K

Keyboard Paper, 100, 730, 740, 780, 800.
Kid Weddings, 240, 241, 242, 243, 244.
Krafelt, 900, 921.
Kraft, 730, 731.
Kraft Bag Paper, 730.
Kraft Envelope Paper, 830.
Kraft Board, 010, 011, 012.
Kraft Paper, 730.
Kraft Waterleaf, 680, 681.
Kraft Waterproof, 730.

L

Label Paper, 100, 130, 136, 140, 146.
Lace Paper Stock, 100, 800.
Laid Writing, 840.
Laminated Strawboard, 083.
Lampshade Paper, 200, 780, 850.
Laundry Bags, 730, 780.
Laundry Board, 010, 011.
Layer Board, 010, 050.
Layer Cards, 010, 050.
Lead Pencil Paper, 780.
Leather, Artificial, 040.
Leather Board, 040.
Leatherette Cover Paper, 400.
Ledgers, 850, 851, 852.
Lens Paper (Japanese), 630.
Letter Files, Paper, 015.
Letter Paper, 800, 840, 780.
Lined Board, 011, 012.
Lined Paper Plates, 021, 022.
Linen Ledger, 850, 851, 852.
Linenoid, 940.
Lining Paper, 100, 400, 500.
Litho Blanks, 024, 064.
Lithograph Book Paper, 120, 130, 140.
Lithograph Label Paper, 120, 130, 136, 140, 146.
Litmus Paper, 901.
Loose Leaf Ledger, 850, 851, 852.
Lunch-Rolls (Vegetable Parchment), 768, 774.
Lunch Sets, 120, 800.

M

Macaroni Paper, 780.
Machine Finish Book Paper, 120.
Machine Finish Cover Paper, 430.
Machine Glazed Sulphite (or M. G. Manila), 781.
Map Paper, 810, 811, 812, 817.
Matrix Paper, 950, 956.
Megaphones, 011, 012, 051, 052.
Memo Covers, 430.
Menu Board, 062, 210.
Metallic Paper, 102.
M. G. or Machine Glazed Kraft, 731.
Middles, 020.
Mill Blanks, 210.
Mill Board, 210.
Mill Glazed, 210.
Milk Bottle Caps, 050.
Milk Bottle Paper, 784, 944.
Mill Bristol, 210.
Mill Lined Board, 011, 012.
Mill Wrapping, 700.
Mimeograph Paper, 150.
Mimeotype Stencil Paper, 633.
Monotype Keyboard Paper (Langston Typesetting Machine), 100, 120, 740, 780, 800.
Mothbag Paper, 012, 730, 739.
Mothproof Bags, 738, 748, 788.
Mounting Board, 025.
Mounting Cards (Photographic Mounts, Card, Melton Cardboard), 243, 244.
Mulching Paper, 313.
Mulching Paper, 313, 737, 738.
Multigraph Paper, 150.
Music No. 1, 160.
Music Cover, 120, 170, 430.
Music Manuscript, 160.
Music Paper, 160.
Music Roll Paper, 730, 740, 780.

N

Napkin Paper, 680, 681.
Napkin Tissue, 680, 681.
Needle Paper, 690, 694, 790.
Negative Photographic Paper, 961.
News Board, 010, 011, 012.
News Paper, 520.
News Print, 520.
News Vat-lined Chipboard, 011, 012.
Nine Point Semi-Chemical, 080.
Nine Point Strawboard, 080.
Nitrating Paper, 920.
Non-Curling Gummed Paper, 105.
Non-Pasted Blanks, 210.
Non-Test Chipboard, 010, 011, 012.
Note Paper, 840, 870.
Novel News, 500.
Number 1 Bristol, 200.
Number 2 Bristol, 200, 210.
Number 1 Kraft, 730.
Number 2 Kraft, 730.
Number 1 Manila, 740, 780.
Number 2 Manila, 740, 780.

O

Oak-Grained Board, 012.
Oatmeal Wall Paper, 510.
Offset Paper, 170, 173.
Offset Postcard, 170, 173.
Oiled Board, 057.
Oiled Stencil, 210.
Oilproof Paper, 720, 768, 780.
Oneside Coated Printing Paper, 130.
Onionskin, 860.
Oxford Bible Paper, 110.
Oyster Containers, 050, 210.

P

Pails, Paper, 050, 942.
Panel Board, 924.
Papiermaché, 940.
Pamphlet Cover, 430.
Pamphlet Paper, 430.
Paper Napkins, 680, 681.
Paper Textiles, 660.
Pattern Tissue, 640.
Paper Twine, 660.
Paper Yarn, 660.
Paper Stock Board, 010, 011, 012.
Papeterie Paper, 870.
Paperoid, 740.
Paraffin Paper, 774.
Parchment Circles, 768.
Parchmentizing Paper, 760.
Parchment Deed, 880, 881, 882.
Parchment Paper, 768, 880, 881, 882.
Parchmoid (Parchmyn), 720.
Parcel Tapes, Paper, 735.
Passe-Partout, 410.
Pasteboard, 010.
Pasted Bristol, 203, 204, 233, 243.
Pasted Chipboard, 015.
Pasted Cover Paper, 417.
Pasted Wedding Bristol, 243, 244.
Patent Coated Board, 061, 062.
Patent Coated Boxboard, 061, 062.
Patent-Coated Manila Board, 051, 052.
Patent-Coated Newsback, 011.
Patent-Coated Newsboard, 011, 012.
Patent-Coated Newscenter Manila Back, 012.
Patent-Coated Solid Manila, 051.
Patent-Coated Whitelined Board, 011.
Pattern Board, 210, 790.
Pen Carbon Paper, 603.
Pencil Carbon Paper, 603.
Pencil Paper, 780.
Pergamyn (See Imitation Parchment), 720, 780.
Phonograph Record Envelopes, 730.
Photo-Folders, 450.
Photo-Mounts, 450, 452, 453, 454.
Photo-Copying Paper, 961.
Photo-Mount Cover, 450.
Photographic Backing Paper, 961.
Photographic Mounts, 243.
Photographic Paper, 960.
Photogravure Paper, 180, 183, 184, 188.
Photostat Paper, 961.
Photostat, 961.
Picture Backing Board, 015.
Pie Bag, 730, 780.
Pin Paper, 690, 790.
Pin Tickets, 062, 210.
Plain Blanks, 022.
Plain Chipboard, 010.
Plain-Coated Cover Paper, 405.
Plain Strawboard, 080.
Plant Drier, 900.
Plasterboard, 321, 330.
Plate Paper, 120, 170, 190.
Plater Board, 070.
Plates, Paper, 051, 056.
Plate-Wiping Paper, 730, 739, 740, 749, 780, 789.
Pleating Rolls, 780.
Platinum Paper, 961.
Player-Card Stock, 220.
Player-Piano Paper, 730, 740, 780.
Playing Card, 225.
Portmanteaux Board, 090, 091, 092, 098.
Posotype, 961.
Posted Blanks, 025, 213.
Postal Card Paper, 210.
Postcard Paper, 210.
Posted Board, 025.
Poster, 120, 130, 140, 170, 500.
Poster Paper, 120, 130, 140, 170, 500.
Poster Board, 011, 012.
Pottery Tissue, 690.
Pressboard, 070.
Press-Copying Paper, 630.
Press (Presspahn), 070.
Press Copying Tissue, 630.
Printed Fruit Wrappers, 690, 694.
Printed Gummed Tape, 735.
Printers' Dry Proofing Paper, 100, 120.
Printing Out Paper (Photographic), 961.
Profile Paper, 800, 801, 802.
Program Paper, 120, 170, 190, 500.
Pulley Board, 070.
Pulp Barrels, 940.
Pulpboard, 010.
Pulp Circles, 010.
Pulp Sales Board, 012.
Punch Board, 012.

R

Rag Lining, 700.
Rag Plate Paper, 120.
Rag Printing Paper, 120.
Rag Wrapping, 700.
Railroad Board, 011, 012, 014.
Railroad Cardboard, 011, 012, 014.
Railroad Copying Tissue, 630.
Railroad Manila, 780.
Railroad Transfer Paper, 500.
Railroad Writings, 780.
Red Matrix Paper, 900.
Red Rag Blotting, 900.
Red Rosin Sheathing Paper, 340.
Red Rosin Sized Sheathing, 340.
Ribbon Blocks, 010, 080.
Ribbon Paper, 100, 800.
Roofing Felt, 310, 313.
Roofing Paper, 310, 313.
Roofing Wrappers, 700, 730, 780.
Rope Bristol, 230.
Rope Paper, 230, 760.
Rope Bag Papers, 740.
Rope Envelope Paper, 740, 830.
Rope Manila Paper, 740.
Rope Wrapping, 740.
Rosin-Sized Sheathing, 340.
Rotogravure Papers, 120.
Rugs, Paper, 660.

S

Sack Paper, 730, 740, 780.
Safety Paper, 800, 890, 896.
Safety Check Paper, 800, 890, 896.
Salesbook Paper, 120, 800.
Sample Cards, 052, 210.
Sampling Paper, 730, 740.
Sand Paper (See under Abrasive Paper), 740, 748.
Sand Pail, Paper, 016, 940.
Sandwich Bags, 720, 730, 768, 774.
Sanitary Containers, 050.
Sanitary Eating Dishes, 050, 056.
Sanitary Pads, 905.
Sanitary Tissue, 670, 671, 674.
Sanitary Wrapping Paper, 720, 730, 768, 774, 780.
Saturating Felt, 310.
Saturated Felt, 313.
Saturating Paper, 310.
School Drawing Paper, 820.
Screenings, Wrapper, 700.
Sealing Tape, 735.
Sealing Wrappers, 730, 733, 740, 743, 780, 783.
Seaming Cards, 660.
Seat Board, 077.
Second Sheets, 120, 500, 800.
Seed-Germination Paper, 310, 900.
Seed Packets, 740.
Seidlitz Paper, 780.
Self-Sealing Paper, 774.
Semi-Chemical Nine Point Corrugating, 080.
Semi-Kraft, 730.
Semi-Vulcanized Board, 077.
Sensitizing Paper, 960.
Shank Board, 030.
Sheathing, 340.
Sheet-Lined Chipboard, 011.
Sheet-Lined Strawboard, 081, 082.
Shelf Paper, 120, 800.
Shipping Cases, Paper, 010, 011, 012.
Shirtbands, Paper (Gummed), 785.
Shirt Protectors, 010, 011.
Shoe Board, 030.
Shoe Counters, 030.
Shopping Bag, Paper, 730, 740.
Shot Shell Papers, 712, 713.
Showcard Board, 012, 062.
Sign Board, 012, 062, 210.
Silhouette Paper, 410.
Silk Board, 022.
Silver Tissue, 690.
Single-Coated Printing Paper, 130.
Single-Faced Corrugated Board, 013.
Single Feather Edge Board, 018.
Single Manila Lined Board, 011.
Single Manila Lined Newsboard, 011.
Single News Vat-Lined Chipboard, 011.
Single, Thick Cover, 430.
Single White Vat-Lined Chipboard, 011.
Sized and Supercalendered, 120.
Sketching Paper, 800, 820.
Slate, Paners, 018.
Slaters, Paper, 340.
Slip Sheet, 100, 500, 780.
Soap Wrappers, 100, 120, 780, 800.
Solarbromide Photographic Paper (Solarchloride Photographic Paper), 961.
Solid Bristol, 200, 210.
Solid Boards, 010, 050.
Solid Cardboard, 010, 050.
Solid Felt, 310.
Solid Jute Board, 050.
Soufflé Cups, 170, 850.
Spiral Tubes, 700.
Spools, Paper, 700.
Spoons, Paper, 070, 780, 941.
Spoutum Cups, 170, 850.
Standard News Print (See News Print), 520.
Starch Paper, 900.
Steel Plate Paper, 200, 210, 810, 850.
Stencil Board, 217.
Stencil Board, 070, 210, 217, 230.
Stencil Paper for Duplicating Machines (also Dermatype, Mimeotype and Wax Stencil Papers), 633.
Stenotype Paper, 120, 800.
Stereo Matrix Mat, 950, 956.
Stereotype Tissue, 650.
Strawboard, 080.
Strawboard Nine Point, 080.
Strawboard Semi-Chemical, 080.
Straw Wrapping, 710.
Streamers, Paper, 690, 691.
String-Inserted Waterproof, 737.
Suit Board, 058.
Suit Boxboard, 058.
Suitcase Board, 058.
Sulphate Wrapping, 730.
Sulphite Bag Paper 780.
Sulphite Board, 050.
Sulphite Bond, 800.
Sulphite Manila, 780.
Sundae Dishes, 170, 850.
Supercalendered Book Paper, 120.
Supercalendered Cover Paper, 430.
Superfine Writing, 840.
Surgical Dressing Paper, Oiled, 681, 682, 683, 684.
Syphon Recorder Paper, 780, 800.

T

Table Cloths, Paper, 800.
Table Covers, 800.
Tablet Blotting, 900.
Tablet Board, 010.
Tablet News, 520.
Tablet Paper, 120, 500, 520, 780, 800.
Tablet Writing, 800.
Tack Board, 010.
Tag Blanks, 210, 230.
Tag Board, 210, 230.

TAPPI Section, Page 106

Tag Envelope, 740.
Tar Board, 017.
Tar Paper, 313.
Target Board, 092.
Target Patches, 125, 505.
Tarred Felt, 313.
Tapping Board, 030, 040.
Tea Paper, 730, 780.
Telegraph Manila, 780.
Telegraph Paper, 780.
Telephone Memo, 800.
Templet Board, 070.
Test Board, 011.
Test Chipboard, 011.
Test Jute Board, 011.
Text, 190.
Textile Spools, Paper, 011.
Textile Tissue, 660.
Thick China, 014.
Threaded Felts, 737.
Ticker Paper, 120, 500, 800.
Ticker Tape, 120, 500, 800.
Ticket Board, 011.
Ticket Paper, 200, 210.
Ticket Stock, 012, 200, 210.
Tinfoil Paper, 102.
Tissue Manila, 690.
Tire Container, 011.
Tire Rolls (See Tire Wraps), 730.
Tire Wraps, 730.
Tire Wrappers, 730.
Tobacco Bags, 780.
Tobacco Papers, 780.
Toilet Paper, 670, 671, 674.
Toilet Tissue, 670, 671, 674.
Toned Printing, 120.
Tough Check, 210, 230.
Toweling, 680, 681.
Towel Paper, 680, 681.
Towel Tissue, 680, 681.
Tracing Paper, 806, 866.
Tracing Tissue, 663, 664.
Transfer Paper, 100, 120.
Translucents, 200, 210, 230.
Transparent Paper, 720.
Trays, Paper, 010, 020, 026, 940.
Trunk Board, 090, 098.
Trunk Wrapping, 700.
Tube Board, 700.
Twine, Paper, 660.
Twisting Paper, 660.
Two-Sides Coating Printing Paper, 140.
Tympan Paper, 954.
Typewriter Manifold, 860.
Typewriter Paper, 800, 801, 802, 840, 841, 842, 860, 861, 862, 870, 871, 872.
Typewriting Paper, 800, 801, 802, 840, 860, 870.

V

Vandyke, 961.
Varnish Label Paper, 136, 146.
Vat-Lined Chipboard, 011, 012.
Vat-Lined Strawboard, 081, 082.
Vegetable Parchment, 768.
Vellum Paper, 880, 881, 882.
Visor Board, 050.
Vulcanized Paper, 921.
Vulcanized Fiber, 921.
Vulcanizing Paper, 920.

W

Wad Paper, 010.
Wagon Board, 090, 098.
Wallboard, 326, 330, 331.
Wall Paper, 510.
Wallets, 740.
Washers, Paper, 070.
Waste Baskets, Paper, 025, 055.
Water-Color Paper, 820, 821, 822, 828.
Water Finish Sulphite Wrappings, 780.
Waterleaf Paper, 900.
Waterproof Bag, 737.
Waterproofed Cartridge Paper, 734, 784.
Waterproofing Felts, 313.
Waterproof Sheathing, 340.
Waterproof Wrapping, 737.
Waxed Paper, 774.
Waxed Tissue, 692.
Waxing Paper, 770.
Waxed Tissue, 774.
Wax Stencil, 217.
Wax Stencil Paper, 633.
Waybill Paper, 780.
Weddings, 240, 241, 242, 243, 244, 870, 871, 872, 873.
Wedding Bristol, 240, 241, 242, 243, 244.
Western M. F. Book, 120.
White Divider Board, 012.
White Mill Blanks, 210.
White News Mill Lined Strawboard, 081, 082.
White-Print Paper (Sensitized), 961.
White Sulphite Paper, 780.
Willesden Paper, 921.
Wire Wraps, 733.
Wiping Paper, 780.
Woodpulp Board, 050.
Wrapping Tissue, 690.

Y

Yarns, Paper, 660.
Yellow Waybill Copying, 630, 780.

Development Report of the Committee on Fibrous Raw Materials*

By John Traquair[1]

Last year at the TAPPI annual luncheon Prof. Walter Rautenstrauch made the following prophetic statement: "We are entering a period of changing concepts with regard to industrial enterprise. We are entering an era of public enterprise as distinguished from private enterprise." The year 1933 has witnessed a great development of ideas in the industrial and economic fields, and these have carried over into the economics of the supply of fibrous raw materials. Last year this committee had intended to deal at some length with the various waste materials used in the paper industry, but the chaotic condition of the market at that time was such that the plan had to be abandoned.

This year, except for a flurry in the old paper market during the late summer and fall, the supply of waste materials has gradually assumed a condition of greater stability.

The adoption of bleed printing by an increasing number of magazines has transferred a considerable proportion of soft white shavings into the printed waste classification. The per cent of bleed printing in a representative group of magazines for January and February of this year is approximately 5 per cent of the total number of pages.

Further progress has been made with the two new deinking processes mentioned last year, namely; the "Snow-White" process and the McLaren-Snyder process. A new process of deinking telephone directories has been developed by the Combined Locks Paper Company, and a paper giving a full account of this process was presented by Sydney D. Wells at the Roanoke Meeting of the American Institute of Chemical Engineers, December 12 and 13, 1933. In this development the directories are printed with an iron-haematin ink, capable of being bleached by hypochlorite or discharged with reducing agents such as a solution of SO_2, and the discharged product dissolved and removed in a weak SO_2 solution.

The use of Southern slash pine for newsprint has been advanced by Charles Herty and his staff at Savannah, Ga., to a point where it can be said that newsprint can be manufactured commercially from Southern pines.

The use of Danube reeds as a substitute for esparto grass in Europe has made substantial progress. (See "Danube Grass for Paper Making" by D. MacNeil Watson in Proceedings of the Technical Section of Paper Makers' Association of Great Britain and Ireland, Volume XIV, part 1, page 191, October, 1933. Also see World's Paper Trade Review, July 28, 1933, pages 308 to 314.)

Several other reports dealing with new fibers or the evaluation of certain properties of fibers at present in use might be mentioned, but we refrain from dealing with them as the function of this committee is to deal with the economic aspects of the supply of fibrous raw materials.

We will have to wait some time yet before we can evaluate the effect of various paper codes on the industry as a whole, and the supply of fibrous raw materials.

* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 19 to 22, 1934.

[1] Chairman, TAPPI Fibrous Raw Materials Committee, Chillicothe, Ohio.

U. S. Envelope Co. Makes Good Report

[FROM OUR REGULAR CORRESPONDENT]

SPRINGFIELD, Mass., February 20, 1934—The United States Envelope Company last Wednesday announced the authorization of a dividend of $2.50 a share payable March 1 to stock of record February 14. The last dividend was a payment of $2 a share on March 1, 1932. The financial statement read at the directors' meeting showed earnings of $527,308 net. The balance sheet follows:

ASSETS

Plant investment	$9,048,797.94
Trade-marks, patents and good will	121,151.65
Stock: raw, wrought and in process	2,279,252.89
Accounts and notes receivable	900,397.22
Cash	563,189.50
Certificates of deposit, United States and Municipal Securities	475,648.44
Deposit with Old Colony Trust Co. for payment of bond coupons	75.00
Miscellaneous investments	94,243.48
Prepaid charges: insurance, etc.	89,914.76
Deferred assets	73,933.08
	$13,646,603.96

LIABILITIES

Capital stock, preferred	$4,000,000.00
Capital stock, common	2,625,000.00
Accounts payable	174,903.80
Reserve for first mortgage bond coupons	75.00
Reserve for Federal income tax	65,000.00
Reserve for sales tax	247.14
Reserves for depreciation on plant investment	4,426,026.07
Surplus	2,355,351.95
	$13,646,603.96

Bleach Requirement of Pulp*

B. C. O. Seborg[1]

This method is designed to determine directly the amount of hypochlorite bleaching agent necessary to bring a pulp to a selected standard degree of whiteness. It is applicable to all types of pulps, which is not the case with most rapid methods, and can be used to standardize or check these rapid methods.

Bleach requirement or "bleach ratio" in this method refers to the percentage by weight of standard bleach powder (35 per cent available chlorine) used, calculated on the weight of oven-dry pulp.

Apparatus

The apparatus shall consist of: (1) A water bath which can be maintained at a temperature of 40 deg. C. ± 2 deg. C. (2) Equipment suitable for agitating the samples during bleaching in the bath. Agitation may be done conveniently by equipping a shaft, revolving at about 10 r.p.m. in the bath, with clamps or baskets for holding 2-quart wide-mouthed fruit jars in such position that they are revolved about an axis passing through the center and perpendicular to the long axis of the jar. A suitable arrangement is shown in Fig. 1. (3) A suitable color-measuring device, preferably of the color analyzer or spectrophotometric type. Standard color-matching discs or other devices may be used if standardized to the above methods.

Reagent

The reagent used is a clear solution of bleaching powder (calcium hyprochlorite) of known available chlorine content as determined by the official method. Before its concentration is determined, the liquor shall be allowed to stand until clear. The clear liquor shall then be decanted into a clean bottle and a few small lumps of lime (CaO) added. This assures the saturation of the liquor with $Ca(OH)_2$ and stabilizes to a large extent the concentration of available Cl.

The bleach liquor shall be kept in a stoppered bottle and out of contact with air and light so far as possible.

Test Specimen

The test specimen shall consist of a representative amount of pulp of known moisture content, of uniform consistence, free from lumps, and in a condition which will readily disintegrate when put into suspension with water. The moisture content shall be determined by drying a representative portion of the specimen to constant weight at 100 to 105 deg. C. The portions actually used in the procedure below shall not be dried.

Procedure

Weigh out 5 portions of the pulp, each equivalent to approximately 15 grams of oven-dry pulp, and treat each with one of a series of selected amounts of the bleach solution above and below the estimated requirement or bleach ratio. For example, if the pulp is expected to have a bleach requirement of 10 per cent then 6, 8, 10, 12 and 14 per cent of bleach powder are the proper amounts to use; for a 20 per cent bleach requirement, use 15, 17.5, 20, 22.5 and 25 per cent of bleach; and for 30 per cent bleach requirement use 20, 25, 30, 35 and 40 per cent of bleach, respectively. The corresponding amounts of bleach liquor are calculated as follows:

Let A = grams of available Cl per liter of the liquor,
and B = grams of standard bleach powder per liter of the liquor;

$$\text{Then } \frac{A}{0.35} = B,$$

$$\text{and } \frac{(\text{grams oven-dry pulp}) \times (\text{bleach requirement})}{10\ B} = \text{cc. bleach liquor required.}$$

Place each weighed portion of the pulp in a 2-quart jar, mix thoroughly by a small high-speed stirrer with enough distilled water to give a consistence of 1.9 to 2.1 per cent after addition of the bleach liquor. Accurately measure the calculated amount of bleach liquor and mix it into the pulp suspension. Then cover the jar and place in the thermostatic bath. Allow the bleaching to continue while the jars are being agitated in the bath until a drop of starch-iodide solution added to a small portion of the mixture produces a light blue color which persists for 5 seconds. (At this point the bleach is about 99 per cent exhausted. The bleaching reaction must not be allowed to run to completion, as the sample will then "go back" in color.)

Wash the bleached pulps thoroughly on a screen with clean water and make one or more test sheets from each portion. Place the sheets, marked for identification, between filter papers and press them between clean photographic blotters. Air-dry the sheets with the filter papers still adhering to protect them from accidental discoloration. Finally remove the filter papers and determine the color of the sheets.

Calculate the bleach requirement of each sheet and ascertain the minimum bleach requirement which gives the color accepted as a standard.

If greater precision is desired, repeat the test on another series of 5 portions of the pulp, using amounts of the bleach liquor corresponding to approximately 1 and 2 per cent of bleach above and below the bleach requirement found by the first test. For example, if the bleach requirement was found to be 20 per cent, use bleach liquor corresponding to 18, 19, 20, 21, and 22 per cent of bleach, respectively.

Report

Bleach requirements shall be reported to the nearest per cent. The bleach requirements and the colors of the corresponding sheets constitute the report. From these values the bleach requirement to produce a standard whiteness may be estimated to 1 per cent.

Precision

The percentage bleach requirement to obtain a definite degree of whiteness should not vary in duplicate tests by more than 1 per cent at 15 per cent bleach requirement, nor by more than 2 per cent at 35 per cent bleach requirement.

Relation to Actual Bleach Requirement

The actual amount of bleach required by a pulp in a given commercial bleaching process may differ by 1 to 3 per cent from that determined by this method because of process losses, differences in consistence, difference in water, and other factors. The correction to be applied for a given mill installation may be calculated by comparative tests against actual practice.

Received January 23, 1934.
* To be presented at the annual meeting of the Technical Association of the Pulp and Paper industry, New York, N. Y., Feb. 19 to 22, 1934.
[1] Assoc. member TAPPI, junior chemist, Forest Products Laboratory, Madison, Wisc.

The Nature and Purpose of the N. R. A.*

By W. W. Pickard[1]

It is with a feeling of great humility that I come before a body with a name as awe inspiring as the name which your association bears. It is less than eight months since I made the acquantance of the paper industry. At that time I was under the impression that "machine clothing" was some particular kind of dress that the workmen wore, and the word "kraft" suggested only cheese. I have learned little since in regard to the technical process, or art, as I believe you call it, of paper making, but I have been able to form a fairly comprehensive picture of your industry. No one before has ever had the opportunity which has been mine of seeing all of this industry in so short a time. That, and my own experience in the NRA, gives me courage to think that perhaps I may contribute something which you will regard as worth while.

Why An NRA Was Necessary

Before discussing the NRA it may be helpful to inquire why an NRA was necessary. If we go back in history, we see political government gradually developing from a family or tribal form to the complicated system of today. As the population grew and concentrated, government grew and adjusted itself to the new political conditions. At the same time industry was growing and becoming more complicated, but it is rather curious that during this period of change in economic conditions and in political government, industry government remained at a stand-still. Except in the field of public utilities, its laws today present little that is new, although there is no room for debate over the need of some form of government in industry. By that I do not mean political government, but the operation in industry of the governing force. Industry groped toward it through trade associations interlocking directorates, and large corporations, but always there was a group working against the idea because of the fear, often well founded, that such concentration would result in harm to the body politic.

Nearly everyone saw that industrial government was necessary, but no one seemed able to conceive a form of industrial government which would be democratic and would adequately protect the interests of all. Consequently, every effort to establish industrial government was met by prohibitory laws, with the result that industry was driven into a state of anarchy, commonly described as "free and unrestricted competition."

Everybody for Himself

It was a status of everybody for himself with a perfectly human and understandable effort on the part of everyone to get the largest possible share for himself. No one thought in terms of industry as industry. Everyone tried to outstrip his competitor by any means at hand, and some of the methods used would not merit much praise. There was a continual effort to reduce the cost of the commodity manufactured. This has resulted in the development of new and better machinery, better organization and mass production, but because people thought only in terms of their own business it produced also a tendency to reduce costs by forcing down wages. This was particularly true in times of depression when orders fell off. It never seemed to occur to anyone that the effect of reducing wages was to reduce purchasing power, thereby still further reducing orders.

I have a Western friend, known as as Tex Jones. He was playing golf on a course through which flowed a small brook. It was a very shallow little stream with only about an half inch of water running over a flat sandy bottom, so that it was possible to play a ball from the brook if you did not mind being splashed. Tex's ball landed in the brook, and as he was playing in a touranment match and did not want to waste a stroke, he took his niblick to play the ball from the brook. He swung vigorously, but cut too deep, and as a result he only succeeded in shoveling a handful of sand from under the ball, which dropped back into the hole. In desperation he tried it again, with the same result, and then again and again. Each time the ball went deeper. "Buddy," said Tex in telling me the story, "at six o'clock that night I was chin deep."

What We Have Been Doing Since 1929

That is just what we have been doing since 1929. When our progress was stopped, we cut wages and looked down the fairway to admire the flight of our ball, but there was no flight. We were worse off than before and because we did not know what else to do, we kept trying the same old thing again and again. Finally, on March 4, 1933, we woke up to find ourselves chin deep. Our industries were stagnant; our people were out of work and starving, although there was plenty for everyone; we were bewildered. The old remedies had lost thir efficacy. And then there arose a new leadership and a new idea. We turned around and took what looked like a penalty stroke. Instead of reducing wages, we shortened hours and raised wages in an effort to rebuild purchasing power, which was so necessary to keep our industries in action.

At the same time and as a part of the same plan, we permitted industry to emerge from its condition of anarchy and to establish its own government. We relaxed the purely prohibitory provisions of the anti-trust laws and substituted a method whereby members of industries could get together in organizations and deal with the problems of the industry. We had put the burden of increased expenditures on them and we gave them the authority to deal with it.

That, in a word, is the National Industrial Recovery Act. It asks industry to create a uniform wage and hour system which will give every person a job at a living and it permits industry to govern itself, subject only to such supervision from the political government as may be necessary to protect the public generally.

Putting Industries Under Codes

With the passage of that Act, there began the huge undertaking of putting all industries under Codes. It may have seemed to you that the process was unduly slow, and I know that at times I felt as though I was trying to excavate for a sky-scraper with a teaspoon. But now as I look back and see the magnitude of our accomplishment in the short period of eight months, I become very proud of the NRA and I shall always be grateful to Gen. Johnson that he permitted me to have a share in it.

You will remember his explanation of his method of

---

* Presented at the Annual Luncheon of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York, February 22, 1934.

[1] Deputy Administrator of the Paper Division of the National Recovery Administration, Washington, D. D.

selecting deputies. He said he wanted deputies who would not be traded out of their pants and who would be able to face the bombardment of dead cats which was sure to come. I have tried to meet these qualifications. I do not think that anyone has stolen my trousers, whether it be industry, labor or consumer and I think that I have stopped more than one deputy's fair share of dead cats. I am in a particularly exposed position in that respect, because newsprint is in my Division and the consumers of newsprint are the most effective dead cat throwers of them all. They do not throw them by hand; they use artillery, and they hurl more cats and larger cats and deader cats than any other group of cat throwers in the country.

Within a few days there will come the first anniversary of the inauguration of President Roosevelt. We will reach that date with practically all of the industries of the United States under codes. The exceptions are of minor importance.

A Great Conference

On the week beginning March 5 there is to be a great conference in Washington of all Code Authorities. For the first time in history the leaders of all industries will assemble for conference. They will be called on for a report of their stewardship and also for suggestions and recommendations for the better carrying out of the purpose of the National Industrial Recovery Act. It will be a notable occasion and will be the first mile stone in the progress of the New Deal.

One of the most important subjects for discussion will be the matter of wages and working hours. It seems to be apparent now that the 40 hour week, which has generally been adopted is too long. It still leaves a large number of our people unemployed. One reason is the lag in the heavy or capital goods industries, and the question arises as to the extent to which and when these industries may be expected to absorb the labor which they normally employ. If it appears that they cannot do it, then labor must be absorbed by the consumer goods industries, such as your own. This problem merits your most thoughtful consideration.

Some inquiry may be valuable in regard to the function of industrial government. This consideration involves not only what should be done, but how fast it is wise to go. From the beginning I have preached the doctrine of making haste slowly. We, of the NRA were as ignorant as you were. Consequently, we were slow to adopt policies on controversial matters. We tried out some things and then we were accused of inconsistency because we backed away from them. This was inevitable. We were feeling our way. Industry, on the otherhand, wanted to do everything at once.

Child-Like Faith in Efficacy of Law

This may be due to the fact that all Americans have a child-like faith in the efficacy of laws as a cure of all ills. We have our National Congress and 48 State legislatures and innumerable local legislative bodies. Everytime anyone has an idea that something is not just as it ought to be, he says "there ought to be a law," and a lot of legislators hasten to supply the demand. As a result, we turn out in this country every year an unbelievable volume of statutory laws. I doubt if there is any industry in the country that has suffered as much from over production as has our Law Making Industry. I think a code for legislatures with strict production control provisions might be valuable. Probably you would oppose it because the legislatures are large consumers of your product.

On top of this legislative system, we adopt the Recovery Act, and the effect is to create a whole new group of law making bodies. Every industry is accorded the privilege of writing laws for itself. I do not suppose there is a man among you who has not complained about the volume and character of our statute laws, but now that you have been given the opportunity to legislate a little, you are just as bad as the other legislators. You write codes and trade practices in which you try to cover every possible detail. You want to take away from the chiseler his whole assortment of chisels and to prohibit him from ever acquiring another chisel. You do not want to leave him even a tooth-pick.

I am told that the Code for the lead pencil industry as submitted, was over 90 pages long. I know that you submitted to me 171 pages of trade practices for the various divisions of this industry. The trouble with such Codes is that they will not accomplish their purpose. The more detail you go into, the more difficult they are to understand and enforce. It must not be overlooked that there are a great many people who still think that industry cannot be trusted with legislative powers. The NRA program is still in its infancy. It is not to be expected that it will be immediately accepted in its entirety by everyone. The process of assimilation of new things is slow. For this reason your Codes should be kept simple and understandable; then they will be accepted. Never forget that unless the people generally accept and support a law it cannot be enforced. We have just gone through an experience in attempting to enforce a law which the people would not accept. It was a failure and had to be repealed.

In State of Anarchy for Years

Again industry has been in a state of anarchy for many years. There is no man or group of men in the paper industry or any other industry capable of writing an elaborate code of laws for that industry at the present time without making many blunders and without creating new conditions that will be found more burdensome than those that are corrected. Develop your law gradually. The NRA in some form is here to stay. The machinery for industrial legislation will continue to function indefinitely and a volume of law, built up gradually, as a result of experience, will be a firm and lasting structure, while one run up over night will topple over in the first wind that blows.

We are all agreed I think that one of the most important functions of industrial government is the education of members of each industry in relation to their own industry. The first step in this process is the gathering of statistics, and the second is the dissemination of the information so acquired so that each member of any industry may be able to see himself as a part of the whole. They must learn to think in terms of industry, and this will be possible only when they have absorbed sufficient industry information so as to see the whole picture. Practically all codes contain provisions for obtaining industrial statistics on many subjects. These provisions have not yet been in existence long enough to make their effect felt, but I am satisfied that in due course they will have a very important bearing on industry thinking and industrial government.

Unfair Trade Practices

Another subject which is very dear to the heart of the industrial legislator is the prevention of unfair trade practices. The first difficulty is to get them to agree on what is unfair, and the second is to find a way to prevent the unfair practices without putting the entire industry in a legislative straight jacket. It is not easy to prevent unfair competition without stifling all competition. The law itself prohibits wage chiseling, the most unfair of all unfair

methods of competition, but there are other methods, and the first one which comes to the mind of everyone is price cutting. Of course, price, in the long run, depends on the operation of the law of supply and demand, which no code can repeal. When that law is permitted to operate fairly and evenly, a sound price structure will result. We all know, however, that the operation of the law can be interfered with. The result in such cases is either a temporary destruction of the price structure and a state of chaos or a temporary condition of unduly high process. When the NRA came into existence, there were a great many people who hoped it meant price fixing, and a geat many more who feared it meant the same thing. Of course, there is always a difference of opinion of what constitutes price fixing. To a buyer, a certain course of action constitutes price fixing, while to the seller the same course is merely the stabilization of the industry. Real price fixing is destructive of competition and monopolistic and forms no part of the NRA program.

So far, two methods have been devised to prevent unfair practices in relation to price. The first is the legislation of the open price plan of selling, and the second is the prohibition against selling below individual cost. The latter is very difficult to enforce, because there are probably no two accountants, even when working under the same set of rules, who would arrive at the same figure of cost.

A New Plan Approved by NRA

A new plan has been approved by the NRA within the past few days which may provide something better. Under this plan, the Code Authorities may determine that an emergency exists, due to destructive price cutting, and may themselves determine "the lowest reasonable cost of the products of the industry." It then becomes a violation of the Code for any member of the industry to sell below such reasonable costs. Of course, as a protection to the public, all such determinations are subject to review by the Administrator. This, I take it, is one of our experiments. If it does not work well, it will be abandoned, and the surest way to bring about its abandonment would be for industries to abuse or to try to abuse it.

The open price plan, in my opinion, has great value, because it turns the spot-light on everyone's prices, and a very large percentage of chiselers do not like the spot-light. Their consciences do not trouble them, but they hate to be caught. Furthermore, the open price system is an effective curb on the chiseling purchaser who endeavors to beat down the price by carrying dishonest reports from seller to seller.

One effect of the open price system is to produce uniformity in prices, and this has been taken by some people to be evidence that prices are being fixed by agreement. I do not share this view. It is entirely possible that the open price plan may have been used in some cases as a tool of price fixers, but many good tools have been used for illegal purposes. We do not abolish axes because many murders have been committed with axes. Another theory is that the waiting time between the date of filing a price and its effective date is provocative of or an aid to price fixing, and in new codes the waiting time is suspended until completion of an investigation of this subject now going on. Price fixing means establishing a uniform price by agreement, and it is my own opinion that a slight change in the price publication machinery will not prevent the making of such agreements.

Anti-Trust Laws Still in Force

Price fixing agreements are just as much a violation of the anti-trust laws as they ever were, and it is my view that they should be treated in the same way that they have in the past, and that this is the only real remedy.

Under the open price plan as first conceived, every member of an industry was required to file his prices and adhere to them. This produced an enormous volume of paper work, as the secretaries of your associations know. Recently we have developed a new idea which reduces this volume very much and has the added advantage of relieving small producers from the burden of preparing and filing long price lists. Under this plan, the filing of prices is voluntary, but every member who elects not to file a price, is bound not to sell below the lowest prices filed by any competitor. This plan was developed in the Paper Division and will be found in the Envelope Code, the Folding Box Code, the Shipping Container Code and a number of smaller codes.

Open price filing presents many problems where we were dealing with a commodity of which there are many kinds and innumerable grades of each kind. We have the question of fixed differentials based on grade, service, quantity, class of customers, freight rates and many other things. The Code is the proper place to establish such differentials, or at least to create the machinery to establish them. They are necessary to make an open price system intelligible, but they must be honest differentials based on cost. Many innocent looking schedules of differentials have been presented to us, which, on analysis, proved to be nothing but price fixing schemes.

Standardization of Grades

I understand that the members of this organization are very much interested in the subject of standardization of grades. Without any technical knowledge, I believe that much can be done to reduce costs in the industry by a reduction in the number of standard grades. It seems to me self evident that there exist today hundreds of unnecessary grades which could be abolished without injury to anyone. The codes are the proper vehicle for this purpose, but there again care must be taken not to go too far. It would be the most unfortunate to so freeze the grade structure as to make it impossible or even difficult to develop a new grade for which there was a real new use.

Another subject which interests you is how to handle the problem of over-production. I know that this is a particularly difficult problem with you because of your very high ratio of investment to turnover. Numerous plans to meet this problem have been submitted to us, such as limitation on machine hours, allocation of production, licensing purchases of new equipment and many others. None of them have seemed to be very satisfactory because they all tend to fixation and to the destruction of initiative. I have no panacea to offer. I do not know the answers.

The New Board Remedy

A brand new remedy has recently been offered and is now under consideration, and because it involves paper, it may interest you. You are familiar with the board industry. You know of the development of kraft board in recent years and of the place which it has made for itself in the board industry, and you know that today when the two types of board are lumped together, there is a great production over capacity. To meet this situation, a number of manufacturers of both types of board have entered into an agreement to form a corporation and to tax themselves on a basis of tonnage production to supply capital to the corporation. The business of the corporation will be to acquire marginal mills and to shut them down. The agreement provides that the Administrator may at any time at

his descretion require that any such unit be thrown back into production and that his approval of the whole plan may be withdrawn, if it should appear to be injuring the public. Provision is also made that when any plant is shut down, all labor attached to that plant shall be absorbed. The theory of the proponents of this plan is that the efficient mills will be able to run full, and that the result will be a reduction in cost, which will not only pay all expenses of the plan, but will actually result in a reduction of price to the consumer. This is contested, and I do not know what the outcome will be.

I have had a hand in the organization of many corporations. They all started out with high hopes and expected to make a great deal of money. Many of them failed to attain their object. The object of this corporation is not to make money, but to lose it. It should succeed.

The Experiment in Newsprint

Another experiment which is before us is in the newsprint field. Here a remarkable thing has happened. The Canadian manufacturers of newsprint are not subject to the Newsprint Code, and their paper is admitted duty free. Nevertheless, they have made an agreement with the American manufacturers, that if the Americans will fix the price of newsprint and obtain the approval of the President of the price so fixed, they, the Canadians, will conform to that price. Of course, that plan is opposed and the outcome is uncertain.

I cite these two experiments merely as examples of the possibilities of industrial self-government under the NRA. It so happens that both of them are in my Division and I have no doubt that many more are under consideration elsewhere in the NRA.

Hostile Under-Currents Losing Trace

In conclusion, I want to mention one long step in the evolution of industrial self-government which has been definitely taken and which is generally overlooked. Many times in the earlier meetings of the paper industry which I attended, I have felt under-currents of suspicion and hostility. I did not know what they were about, and I took care not to learn. I preferred to be innocent and unsuspecting. And the fact that I had had no previous connections with the paper industry made that possible. Recently, I have noticed that these under-currents are losing force. Other deputies tell me of similar experiences. The continual association of the past few months have given men knowledge of each other and a tolerance of each other's views, which they have never had before, and that, to my mind, is the real foundation of industrial government. If the NRA never accomplished another thing, if it died tomorrow, it would leave behind in the minds and hearts of men an impetus toward better social and economic conditions which will never stop.

You have been very patient with me and I feel that I might have perhaps taken a lesson in brevity from a boy of mine. He was away at camp and he wrote his mother this letter:

"Dear Mother—

I out in boat; hit log, busted hole in boat; it sunk; jumped overboard; got behind; kicked; got ashore.

Yours loveling,
Nick."

That just about described our situation, and I might have condensed these remarks into familiar form.

Last spring we *were* out in a boat and we *had* hit a log and we *had* busted a hole in the boat and it *was* sinking. We *did* jump overboard, although we did not know how deep the water was or how many sharks there were. We *did* get behind and we *are* kicking, and I am just as confident as I am that I am standing here that we *are* getting close to the shore.

Andrew P. Lane Dies at Miami Beach

Andrew P. Lane, for the last 28 years traffic manager of the Great Northern Paper Company, died suddenly February 18 at Miami Beach, Fla., where he had been convalescing after a brief illness. His residence was at 49 Sargent Street, Dorchester.

Mr. Lane was born in Boston in 1866, where he attended the public schools. In 1893 he married Louise Harrigan, of East Boston.

Mr. Lane's entire business life had been devoted to transportation. Before becoming associated with the Great Northern Paper Company, he was connected with the Clyde Line, and was manager of the Metropolitan Steamship Line. He was vice-general chairman from Maine of the New England Shippers Advisory Board. He was a staunch supporter of the Port of Boston and was a member of the governing board of the Maritime Association of the Boston Chamber of Commerce. During the World War Mr. Lane made an excellent record as fuel administrator for the State of Maine, under Gov. Percival Baxter. For two years he lectured on transportation at the Harvard School of Business Administration. He was a member of the University Club.

A widow, a daughter, Mrs. Louise Kehoe of Dorchester, and three sons, Arthur Lane of Belmont, Ralph Lane of New York, and Andrew F. Lane of Newton, and a brother, John Lane of Mattapan, are living.

Alexander Thomson Is Optimistic

"The prospects for business in 1934 are much brighter, due to underlying conditions which point to a gradual and sustained business recovery."

This statement, sounding a note of optimism to all, constituted the first official expression by Alexander Thomson, president of the Champion Coated Paper Company, Hamilton, Ohio, as he became president of the Ohio Chamber of Commerce.

"In forecasting business recovery I am not attempting to create false impressions in the mind of anyone," Mr. Thomson said, "for I am firmly convinced in my own mind, because of existing underlying conditions, that better times are ahead for all of us during the year 1934."

This honor comes in recognition of Mr. Thomson's interest and leadership in movements for civic betterment and his position of prominence among the business men and public spirited citizens of this entire state.

F. B. Mitchell Heads Representatives

Frank B. Mitchell, manager of Linton & Co., Chicago and St. Louis representatives for the Northwest Paper Company, has been elected president of the St. Louis Association of Manufacturers' Representatives. Mr. Mitchell is a member of the Missouri Athletic Association, Westborough Club, the Caballeros and the Chamber of Commerce.

Michigan Paper Co. Makes Good Report

The Michigan Paper Company of Plainwell, Mich., held its annual meeting of stockholders and directors here February 2, and reported a favorable outlook for 1934. Business for the month of January has been encouraging, officials reported.

Paper and Pulp Imports of the United States

For Dec. and for the Twelve Months Ending Dec. 31, 1932 and 1933

PAPER IMPORTS

Articles	December, 1933 Quantity	December, 1933 Dollars	Twelve Months, Ending December, 1933 Quantity	Twelve Months, Ending December, 1933 Dollars
PAPER AND MANUFACTURES	.....	7,081,375	.....	77,446,538
Printing paper—				
Standard newsprint, free ..... thous. lbs.	337,574	5,961,877	3,587,082	68,494,657
All other, n. e. s., dut ..... lbs.	322,099	6,174	4,188,821	89,377
Greaseproof and waterproof paper, dut ..... lbs.	59,851	7,397	617,625	82,640
Kraft wrapping paper, dut ..... lbs.	593,620	21,864	8,317,553	275,566
Other wrapping paper, dut ..... lbs.	90,837	2,999	1,746,249	65,663
Writing and drawing paper, dut. lbs.	164,778	30,165	1,606,957	273,443
Paper and envelope combinations, dut	.....	1,146	.....	34,075
Surface-coated paper, dut ..... lbs.	96,584	43,651	1,252,403	464,459
Uncoated paper, decorated or embossed, dut ..... lbs.	1,712	1,060	26,124	7,961
Tissue and similar paper—				
Not over 6 pounds to the ream, dut ..... lbs.	105,258	49,385	1,131,665	450,705
Other, dut ..... lbs.	38,740	15,062	439,367	164,003
Paper boards, n. e. s.—				
Pulpboard in rolls, dut ..... lbs.	326,612	7,219	12,580,717	218,375
Paper board, pulpboard, n. e. s., and cardboard, dut ..... lbs.	934,628	16,496	13,682,817	229,692
Leather board, test, and wall board, dut ..... lbs.	3,195,570	57,369	11,899,775	368,768
Cigarette paper, books, and covers, dut ..... lbs.	2,295,536	611,800	15,349,475	3,426,325
Hanging paper (wall paper), dut. lbs.	26,097	6,891	243,473	71,730
Duplex decalcomania, not printed, free ..... lbs.	18,538	4,152	374,142	71,441
Paper boxes, dut	.....	23,672	.....	403,309
Papier mache and pulp manufactures, dut	.....	33,854	.....	365,523
Other paper and manufactures, dut.	.....	179,142	.....	1,888,823

PAPER IMPORTS

Articles	December, 1932 Quantity	December, 1932 Dollars	Twelve Months, Ending December, 1932 Quantity	Twelve Months, Ending December, 1932 Dollars
PAPER AND MANUFACTURES	.....	6,204,526	.....	94,089,418
Printing paper—				
Standard news print, free ..... thous. lbs.	268,893	5,689,836	3,582,294	84,675,654
All other, n. e. s., dut ..... lbs.	206,574	5,383	3,639,000	97,226
Greaseproof and waterproof paper dut ..... lbs.	14,921	2,988	430,746	57,169
Kraft wrapping paper, dut ..... lbs.	502,913	15,684	7,237,207	221,169
Other wrapping paper, dut ..... lbs.	131,990	4,881	2,538,476	78,638
Writing and drawing paper, dut. lbs.	144,381	21,553	1,680,914	263,617
Paper and envelope combinations, dut	.....	6,993	.....	92,192
Surface-coated paper, dut ..... lbs.	81,257	28,118	837,616	342,665
Uncoated paper, decorated, or embossed, dut ..... lbs.	1,213	381	50,984	13,360
Tissue and similar papers—				
Not over 6 pounds to the ream, dut ..... lbs.	40,026	13,728	1,051,732	467,811
Other, dut ..... lbs.	13,838	4,196	373,351	130,322
Paper boards, n. e. s.—				
Pulp board, in rolls, dut ..... lbs.	2,683,769	45,662	21,663,931	367,009
Paper board, pulboard, n. e. s., and cardboard, dut ..... lbs.	1,242,894	24,219	10,435,702	182,909
Leather board, test, and wall-board, dut ..... lbs.	50,778	5,762	2,366,228	135,405
Cigarette paper, books, and covers, dut ..... lbs.	817,761	185,010	17,442,169	4,141,144
Hanging paper (wall paper), dut. lbs.	32,357	5,849	404,160	97,839
Duplex, decalcomania, not printed, free ..... lbs.	1,229	202	288,104	47,151
Paper boxes, dut	.....	37,233	.....	700,378
Papier-mache and pulp manufactures, dut	.....	15,375	.....	264,887
All other paper and manufactures, dut	.....	91,473	.....	1,712,873

PAPER BASE STOCK IMPORTS

Articles	December, 1933 Quantity	December, 1933 Dollars	Twelve Months, Ending December, 1933 Quantity	Twelve Months, Ending December, 1933 Dollars
PAPER BASE STOCKS	.....	6,016,520	.....	65,329,100
Pulpwoods ..... cords	34,284	216,265	723,208	5,362,335
Rough—				
Spruce, free ..... cords	466	2,024	119,227	899,739
Other, free ..... cords	.....	.....	625	3,200
Peeled—				
Spruce, free ..... cords	28,606	190,660	491,947	3,801,323
Other, free ..... cords	4,877	21,846	99,865	585,477
Rossed—				
Spruce, free ..... cords	335	1,735	11,544	72,596
Wood and other pulp—				
Mechanically ground wood pulp—				
Unbleached, free ..... tons	13,381	230,196	176,869	3,031,488
Bleached, free ..... tons	854	16,350	10,881	188,431
Sulphite wood pulp—				
Unbleached, free ..... tons	63,341	2,109,422	643,003	19,946,124
Bleached, free ..... tons	37,302	1,919,932	400,633	19,138,468
Sulphate wood pulp—				
Unbleached (Kraft), free.. tons	38,082	1,080,013	461,980	12,568,367
Bleached, free ..... tons	2,618	165,560	36,622	2,361,882
Soda pulp, free ..... tons	392	18,607	3,568	139,245
Other pulp, free ..... tons	.....	.....	188	30,005
Rags for paper stock, free ..... lbs.	11,926,538	149,415	171,503,795	1,413,830
All other paper stock, free ..... lbs.	7,751,567	110,760	105,046,100	1,153,925

PAPER BASE STOCK IMPORTS

Articles	December, 1932 Quantity	December, 1932 Dollars	Twelve Months, Ending December, 1932 Quantity	Twelve Months, Ending December, 1932 Dollars
PAPER BASE STOCKS	.....	5,214,577	.....	54,446,020
Pulpwood ..... cords	20,943	160,664	648,188	5,581,976
Rough—				
Spruce, free ..... cords	1,686	8,876	114,344	912,451
Other, free ..... cords	.....	.....	22	160
Peeled—				
Spruce, free ..... cords	14,175	118,411	458,726	4,206,989
Other, free ..... cords	4,957	31,963	72,432	432,861
Rossed—				
Spruce, free ..... cords	125	1,414	2,664	29,515
Other, free ..... cords	.....	.....	.....	.....
Wood and other pulp—				
Mechanically ground wood pulp—				
Unbleached, free ..... tons	14,346	274,662	152,716	2,997,675
Bleached, free ..... tons	1,192	19,415	15,556	270,782
Sulphite wood pulp—				
Unbleached, free ..... tons	66,359	2,079,145	508,088	17,047,669
Bleached, free ..... tons	27,929	1,260,245	311,046	14,727,214
Sulphate wood pulp—				
Unbleached (Kraft), free.. tons	33,903	1,035,966	310,659	9,818,674
Bleached, free ..... tons	2,424	214,207	23,366	1,975,720
Soda pulp, free ..... tons	.....	.....	1,569	65,512
Other pulp, free ..... lbs.	21	824	179	18,127
Rags for paper stock, free ..... lbs.	7,951,190	105,814	88,434,994	1,161,315
All other paper stock, free ..... lbs.	6,152,546	63,635	84,970,166	781,356

CHEMICALS AND OTHER PAPER MAKERS' MATERIALS IMPORTS

Articles	December, 1933 Quantity	December, 1933 Dollars	Twelve Months, Ending December, 1933 Quantity	Twelve Months, Ending December, 1933 Dollars
Colors, dyes, stains, color acids, and color bases, n. e. s., dut ..... lbs.	314,855	403,048	5,019,792	6,060,617
China clay or kaolin, dut ..... tons	5,590	39,121	103,732	632,437
Casein or lactarene, dut ..... lbs.	59,121	7,733	8,141,598	444,689

CHEMICALS AND OTHER PAPER MAKERS' MATERIALS IMPORTS

Articles	December, 1932 Quantity	December, 1932 Dollars	Twelve Months, Ending December, 1932 Quantity	Twelve Months, Ending December, 1932 Dollars
Colors, dyes, stains, color acids, and color bases, n. e. s., dut ..... lbs.	403,051	485,084	4,245,230	4,688,100
China clay or Kaolin, dut ..... tons	11,086	54,571	89,086	460,553
Lime and limestone, crude, dut.. lbs.	3,038,604	9,000	33,301,140	106,064
Casein or lactarene, dut ..... lbs.	85,537	3,058	1,201,014	38,466

"Paper on Parade"

The Howard Smith Paper Mills, Ltd., with executive offices at 407 McGill street, Montreal, has just published the first issue of its new magazine, "Paper on Parade." Its purpose is explained in the foreword as follows:

"A new publication generally receives more than casual scrutiny and therefore we hope your first perusal of 'Paper on Parade' proves of value. Our attempt here is a sincere effort to provide timely and authoritative information for those who design, produce or use printing. In this and future issues you will find featured colorful cover papers with suggested color combinations—illustrated articles on the manufacture of sulphite papers—unique and effective letterheading designs—an idea section showing the possibilities of our text papers—display boards of fine photographs and printed pieces—articles on artwork and reproduction processes, and other subjects of interest to users and designers of printed advertising."

High class printing and an unusually novel and attractive cover are among the important features which are bound to make many friends for the new publication. It will be certain to help increase the use of high grade printing and high grade paper.

Paper and Pulp Exports of the United States

For Dec. and for the Twelve Months Ending Dec. 31, 1932 and 1933

PAPER EXPORTS

Articles	December, 1933 Quantity	December, 1933 Dollars	Twelve Months, Ending December, 1933 Quantity	Twelve Months, Ending December, 1933 Dollars
PAPER AND MANUFACTURES	.....	1,631,086	.....	14,599,007
Printing paper—				
Newsprint paper.....lbs.	4,619,680	96,964	22,296,879	456,808
Book paper, not coated.....lbs.	1,743,555	82,679	18,382,509	862,848
Cover paper.....lbs.	64,170	7,670	823,732	103,688
Grease proof and waterproof paper .....lbs.	333,720	62,066	4,717,517	763,129
Overissue and old newspapers..lbs.	23,217,751	207,569	143,607,766	1,059,738
Wrapping paper.....lbs.	2,776,959	138,282	24,373,666	1,249,810
Surface-coated paper.....lbs.	387,376	74,034	6,130,350	617,219
Tissue and crepe paper.....lbs.	353,501	43,271	3,815,430	544,164
Toilet paper.....lbs.	664,204	53,284	6,636,325	534,450
Paper towels and napkins.....lbs.	84,871	10,263	1,601,396	137,352
Box board (paper board and straw-board).....lbs.	5,613,657	138,610	44,632,705	946,289
Bristols and bristol board.....lbs.	84,788	8,096	1,333,946	90,116
Other paper board.....lbs.	2,183,693	62,606	18,927,779	663,099
Sheathing and building paper...lbs.	632,614	17,606	7,215,510	176,642
Fiber insulating board or bat..sq. ft.	2,848,432	82,352	32,985,083	852,261
Wall board of paper or pulp...sq. ft.	1,621,012	37,477	9,826,006	243,172
Blotting paper.....lbs.	146,430	14,635	1,583,377	148,162
Filing folders, index cards, and other office forms.....lbs.	65,600	21,839	843,449	271,715
Papeteries (fancy writing paper) lbs.	9,712	3,446	128,088	28,794
Other writing paper.....lbs.	1,137,606	80,935	13,526,825	884,430
Paper hangings (wall paper)...rolls	87,995	5,806	781,375	64,141
Paper bags.....lbs.	937,746	49,449	10,917,815	529,522
Boxes and cartons.....lbs.	405,670	31,043	6,929,100	443,734
Envelopes.....lbs.	87,743	12,934	921,438	128,882
Vulcanized fiber sheets, strips, rods, and tubes.....lbs.	375,649	97,148	2,801,358	726,727
Cash-register and adding-machine paper.....lbs.	292,341	23,502	2,570,663	202,593
Other paper and paper products....	.....	167,520	.....	1,869,522

PAPER BASE STOCK EXPORTS

Articles	December, 1933 Quantity	December, 1933 Dollars	Twelve Months, Ending December, 1933 Quantity	Twelve Months, Ending December, 1933 Dollars
PAPER BASE STOCKS	.....	501,906	.....	3,861,967
Pulpwoods.....cords	.....	.....	10,737	68,322
Wood pulp—				
Sulphite wood pulp.....tons	8,103	400,050	68,897	3,048,542
Soda wood pulp.....tons	98	6,339	680	33,883
Other wood pulp.....tons	366	5,155	1,130	31,458
Rags and other paper stock....lbs.	6,935,826	90,362	74,504,798	679,762

PAPER AND PULP MILL MACHINERY EXPORTS

Articles	December, 1933 Quantity	December, 1933 Dollars	Twelve Months, Ending December, 1933 Quantity	Twelve Months, Ending December, 1933 Dollars
Paper and pulp mill machinery.....	.....	55,165	.....	450,391
Paper converting machinery and parts.....	.....	55,813	.....	444,518

PAPER EXPORTS

Articles	December, 1932 Quantity	December, 1932 Dollars	Twelve Months, Ending December, 1932 Quantity	Twelve Months, Ending December, 1932 Dollars
PAPER AND MANUFACTURES	.....	1,149,535	.....	15,407,559
Printing paper—				
News print paper.....lbs.	1,417,335	37,227	16,927,992	447,896
Book paper, not coated.....lbs.	817,068	42,466	14,963,103	787,094
Cover paper.....lbs.	90,906	11,225	1,084,918	130,974
Greaseproof and waterproof paper .....lbs.	294,783	55,120	4,194,812	871,911
Overissue and old newspapers...lbs.	18,101,006	124,598	209,151,107	1,472,722
Wrapping paper.....lbs.	1,479,689	172,358	19,260,320	1,317,011
Surface-coated paper.....lbs.	599,374	73,145	6,060,851	677,898
Tissue and crepe paper.....lbs.	296,038	37,885	3,676,093	554,128
Toilet paper.....lbs.	412,320	29,403	6,053,997	542,436
Paper towels and napkins.....lbs.	199,753	15,512	2,130,778	202,218
Box board (paper board and straw-board.....lbs.	2,223,147	36,230	37,504,905	660,469
Bristols and bristol board.....lbs.	111,525	7,593	1,651,698	111,448
Other paper board.....lbs.	904,624	32,787	24,725,223	814,086
Sheathing and building paper...lbs.	453,860	11,828	6,997,166	187,325
Fiber insulating board or bat. sq. ft.	1,665,343	41,164	24,891,109	641,595
Wall board of paper or pulp..sq. ft.	284,012	7,680	6,714,857	181,721
Blotting paper.....lbs.	163,974	12,896	1,092,594	117,036
Filing folders, index cards, and other office forms.....lbs.	57,571	19,916	972,047	311,256
Papeteries (fancy writing paper) .....lbs.	15,366	3,150	192,612	44,503
Other writing paper.....lbs.	974,390	63,675	12,529,315	859,236
Paper hangings (wall paper)...rolls	39,649	3,915	766,182	79,885
Paper bags.....lbs.	825,440	37,667	8,571,418	485,158
Boxes and cartons.....lbs.	695,529	40,077	11,180,498	628,046
Envelopes.....lbs.	89,656	11,394	1,063,075	148,536
Vulcanized fiber sheets, strips, rods, and tubes.....lbs.	167,021	48,965	2,245,793	666,489
Cash-register and adding-machine paper.....lbs.	158,423	12,369	4,898,065	354,666
Other paper and paper products...	.....	159,290	.....	2,111,816

PAPER BASE STOCK EXPORTS

Articles	December, 1932 Quantity	December, 1932 Dollars	Twelve Months, Ending December, 1932 Quantity	Twelve Months, Ending December, 1932 Dollars
PAPER BASE STOCKS	.....	224,974	.....	2,707,277
Pulpwoods.....cords	784	4,533	28,405	177,327
Wood pulp—				
Sulphite wood pulp.....tons	3,759	193,408	40,944	1,962,538
Soda wood pulp.....tons	27	2,196	1,104	65,331
Other wood pulp.....tons	.....	.....	685	9,684
Rags and other paper stock....lbs.	3,324,713	24,837	73,922,728	492,397

PAPER AND PULP MILL MACHINERY EXPORTS

Articles	December, 1932 Quantity	December, 1932 Dollars	Twelve Months, Ending December, 1932 Quantity	Twelve Months, Ending December, 1932 Dollars
Paper and pulp mill machinery....	.....	44,330	.....	695,986

A Paper Foundation Program for 1934

Phil A. Howard, president of the Paper Foundation in 1933 and president of the Howard Publishing Company which publishes the *American Paper Merchant* as well as the *Paper Convertor* due to pressure of work in his own business has resigned much to the regret of all his associates in the Paper Foundation. He did a monumental job in successfully bringing to a conclusion one of the finest paper movements ever started in the industry. The fact that he did it at a time when discouragement was at every turn speaks well for his vision and the courage of his convictions.

The new president is William J. Miskella of Chicago, who designed the 1933 Exhibit and supervised the creation and erection of the House of Paper. Mr. Miskella is Director of Research for the Mid-States Gummed Paper Company. He was called back last September to take charge of the Paper Foundation as general manager, which position he held continuously until January 19, 1934, when the board of directors elected him to the office left vacant by the resignation of Phil A. Howard.

Mr. Miskella graduated from Cornell in 1905 and served for a number of years in the original organization out of which grew the Bell Telephone Laboratories—a large user of technical paper. He is the inventor of many color and finishing devices and processes, covering which he holds several valuable patents.

The Paper Foundation says: "We bespeak for Mr. Miskella the same hearty co-operation which was accorded Mr. Howard, and we can assure the members of the paper industry that if this be done, they will not be at all ashamed of the paper presentation which will be offered for the approval of the public when the gates are thrown open in June, 1934."

Show Ridgelo Clay Coated Products

Paper Merchants, Inc., 140 North sixth street, Philadelphia, Pa., have recently installed in their elaborate showcase an exhibit of Ridgelo Clay Coated products, for which they are distributors.

These cardboards are made by Lowe Paper Company, Ridgefield, N. J., and include coated Litho Blanks, Railroads, Folding Boxboard, Tough Check and Band stock.

Some of the printed examples on these boards were car cards, displays, containers, calendars, cartons and packaging novelties.

It is expected that the material will be shown by other Ridgelo distributors in the near future.

PAPER TRADE JOURNAL
ESTABLISHED 1872

15 West 47th St., New York, N. Y.

Henry J. Berger
Editor

Ronald G. Macdonald
Editor Technical Section

Herbert J. Laughton
Associate Editor

Thomas J. Burke, C. A.
Editor Cost Section

Lynne M. Lamm
Washington Correspondent

Price, Per Copy, 10 Cents This issue One Dollar
United States, Per Annum, $4.00
Canada, including tax, $7.50; Foreign Countries in Postal Union, $6.00

Member Audit Bureau of Circulations

Vol. XCVIII New York, February 22, 1934 No. 8

This publication is now and always has been printed on paper made in the U. S. A.

THE YEAR IN PAPER

In accordance with the usual custom, a comprehensive analysis of the paper and pulp industry in North America for the past year is afforded in the annual review section of the Convention Number of the PAPER TRADE JOURNAL. Various divisions of the industry have been concisely reviewed by representative leaders of the industry in their particular fields and the information derived therefrom may be depended upon as thoroughly accurate and trustworthy.

The enactment of the National Recovery Act put new life into the industry and since the approval of the Code for the Paper and Pulp Industry, under which the entire industry is now operating, the general situation has improved to a marked extent. Mr. S. L. Willson, president of the American Paper and Pulp Association, summarizes what the NRA has done for the paper industry as follows: "It has enabled the industry to build up an association that was disintegrating, and which now represents nearly every mill in the country, and to prompt their support in financing it. It has enabled the industry to increase the number of those employed by 22 per cent. It has increased pay-rolls at the rate of $70,000,000 per year through increased wage rates and employment. It had developed cooperation between competitors and eliminated jungle competition. It prevents selling below cost, and it has resulted in the standardization of grades and prices. It has been the means of getting those engaged in the industry to study their cost and merchandising problems and to re-establish trade customs and trade practices, which had long been violated or ignored."

The total capacity of the paper industry at the end of 1933 was estimated at 14,050,000 tons. The estimated production for the past year was estimated at 8,893,000 tons, which indicates operations at approximately 63 per cent of capacity. This compares favorably with 1932, when the capacity was 14,050,000 tons and the production 7,997,872 tons, or 56 per cent of capacity. As no new machines were installed during 1933, the statistical position of the industry is stronger than for some years past.

Recovery in the newsprint paper market began last April. From then on demand from the publishers gradually expanded. The principal factor in the situation was the working of the National Recovery Act, which led to the adoption by the United States operators of a code of fair competition and was followed by the formation of the Newsprint Export Manufacturers Association of Canada to cooperate with the Association of Newsprint Manufacturers of the United States in the working of the code. To prevent dumping, the United States Government decided to require Canadian exporters to put up a bond for each car load of newsprint paper going across the Border pending investigation as to price, and pending also the working out of the application of the provisions of the code.

Information gathered by the News Print Service Bureau shows that the total North American output of newsprint paper in 1933 was approximately 3,250,579 tons, of which 2,017,004 tons were made in Canada, 946,374 tons in the United States, 270,834 tons in Newfoundland, and 16,367 tons in Mexico. The Canadian output was 5.3 per cent more than in 1932, that in the United States 6.2 per cent less, with a loss of .4 per cent in Newfoundland and 29 per cent gain in Mexico, making a total continental increase of 43,188 tons, or 1.3 per cent. Stocks of newsprint paper at Canadian mills are figured at 33,847 tons at the end of December, and at United States mills 18,566 tons, making a combined total of 52,413 tons, compared with 64,137 tons on December 31, 1932.

Conditions in the book paper industry during 1933 were somewhat better than in the preceding year. Manufacturing operations were approximately the same as in 1932, which were slightly below 70 per cent of capacity. The total book paper production was around 1,200,000 tons. There were no new book paper machines installed during the year and no reports have been received of contemplated installations in the near future, so that the statistical position of the industry is sound.

In the coated paper division the conditions have been almost identical with the uncoated paper section, the mills operating slightly less than 70 per cent of capacity. With conditions in the book paper industry steadily improving there is a general feeling among book paper manufacturers that if business improves to such an extent that the mills may be operated anywhere near their capacity, the showing for the year 1934 will be fairly satisfactory.

The kraft paper industry improved steadily during the past year. In January, 1933, a somewhat irregular market had been established at about $50 a ton, and the industry struggled through the first quarter of the year with the constant drag of the low-priced tonnage which was still in the hands of distributors and converters. New life was put into the industry following the inauguration of President Roosevelt and the announcement of Administration policies

shortly thereafter and cooperative efforts were once more possible under more favorable conditions than had existed in the past.

Conditions steadily improved and by July the market price climbed to $60 per ton. In midsummer all kraft mills were flooded with orders and the industry operated during this period at a greater percentage of capacity than it had for the past few years. The natural result of such a market was a continued advance in prices, until in October the market level of $77.50 per ton was reached and has prevailed since that date. Shipments for the year exceeded those of 1932 as a result of the unusual buying during the summer months.

Since March the kraft paper industry has increased the wages of its employees, has brought about a reasonable balance between supply and demand for its products through voluntary action, has established a standard specification as the basis for competition between the various units of the industry and has attained a market which should enable all efficiently operated units to continue the payment of fair wages and operate without loss on the basis of the present demand for the products of the industry.

From the reviews presented it will be clearly seen that the trend of the paper industry is upward, with practically all grades taking part in the movement. The outlook for the future is decidedly promising, with quotations of the various standard grades running steady to firm. Should the manufacturers of paper and pulp continue to show the spirit of co-operation which now prevails, profits for 1934 should be greater than for some years past.

Wrapping Paper Dumping

Baltimore Customs officials have reported, for an investigation of suspected dumping, an importation of Swedish M. G. Kraft wrapping. A complaint by the Import Committee of the American Paper Industry against the dumping of such paper is still before the Customs officials at Washington, as is also one against the dumping of M. G. Sulphite. It is understood that action on both complaints was being deferred pending a decision of the Washington officials as to the handling of dumping cases in view of the developments and possible action under the Recovery Act.

The Baltimore case, however, has caused a reopening of the question, and the Import Committee is cooperating with domestic producers in providing the necessary evidence of injury by such dumping.

The case involving the dumping of Finnish kraft has been dismissed by the Customs officials, it being found that the sales to the United States, while at very low prices, did not involve the essential feature of a successful dumping case, sales below the market prices in the country of origin.

Ford Howard Paper Co. Elects Officers

The Ford Howard Paper Company, Green Bay, Wis., held its annual stockholders' meeting February 10, after which the board of directors held a meeting and named officers for the coming year as follows: A. E. Cofrin, president and treasurer; Grafton Houston, first vice-president and secretary; E. W. Lawton, second vice-president; C. I. Smith, assistant secretary.

Hear Supplemental Code on Wire Cloth

WASHINGTON, D. C., February 21, 1934—Hearing was held on February 16 on the supplemental code for the Pulp and Paper Mill Wire Cloth manufacturing industry, which had been subject to a number of rearrangements and minor amendments in its text. It was presented by C. M. Dinkins, counsel for the Fabricated Metal Products Federation. The hearing was conducted by Assistant Deputy Administrator L. S. Horner.

A. M. Ferry, who was shown to have the unique distinction of representing the industry as its "one-man" Code Committee, followed with an elaborate outline of efforts by the sponsoring association to bring about better conditions in the industry. He charged that firms not members of the association had shown but little interest in these activities and, as a consequence, were not called upon to assist the association in framing the code as presented.

Speaking in support of a proposal whereby the operation of Fourdrinier looms would be limited to 40 hours per week for each loom, Mr. Ferry stated that labor unions "consistently have appealed for these shorter hours," and that even the smallest plants were "extremely anxious to have the proposed limitation apply." He asserted that several small mills, non-members of the association, recently had written to him withdrawing their previous protests against the limitation proposal.

Objection to limiting loom hours was voiced by Edward Docherty, of the Holyoke Wire Cloth Company, Holyoke, Mass., who stated that his firm had run its looms on both day and night shifts for 14 years, and that the proposed limitation would force "immediate dismissal of one-half our working force."

Similar objection was made by George Docherty, president of the Holyoke firm; and by union weavers in his mill, the latter expressing their views to the administration in a letter signed by the American Wire Weavers Protective Association.

H. T. McCluskey, of H. T. McCluskey & Sons, New Haven, Conn., was heard next in a protest against the way in which the code had been "more or less railroaded." He objected to the proposed manner for voting upon the Code Authority, and to several suggested trade practice rules, declaring that non-members of the sponsoring association had received no notice regarding formulation of the code. His protests caused the assistant deputy to rebuke the code committee for failure to cooperate with non-member firms, and brought from Mr. Ferry renewed expressions of apology. At the suggestion of the assistant deputy, Mr. McCluskey agreed to supply the administration with detailed information regarding non-members of the association, including the dollar value of the production and the number of employees worked during the years 1929 and 1933.

Power Co. Sues American Writing

HOLYOKE, Mass., February 20, 1934—The Holyoke Water Power Company has brought suit against the American Writing Paper Company, Inc., seeking to restrain it from wasting water through the wheels of its idle mills—the Norman, Wauregan, Linden and Dickinson Divisions.

The power company claims that the paper company has blocked its water wheels and then wasted the water through them from the supplying canal for no good purpose; and that this wastage is forbidden by a clause in the indentures that forbids wastage of any kind, even unnecessary leakage.

The suit will be up for trial in the Hampden County Superior Court next month; although it is likely not to be tried as soon as that.

PAPER TO WITHSTAND "WEAR AND TEAR"

TARENTUM PAPER MILLS

Tarentum, Pa.

Manufacturers of Technical Papers from:

Rope - Jute - Sulphate and Sulphite Pulps

Made on both

Fourdrinier and Cylinder Machines

in

Duplex and Solid Colors

30 lbs. to 300 lbs. in weight.

CHAMPION-INTERNATIONAL COMPANY

LAWRENCE, MASSACHUSETTS

Manufacturers of

High Grade Surface Coated Papers

MILLS AT LAWRENCE, MASSACHUSETTS

Enameled Book a Specialty

Patents Committee Development Report*

Charles W. Rivise[1]

On June 26, 1933, a new administration took over the Patent Office. Both the new Commissioner Conway P. Coe, and his first assistant, Richard Spencer, are in their thirties and are the youngest men to have served as Commissioners. They are both former assistant patent examiners and until their appointments were active patent practitioners.

A committee, including several prominent patent attorneys, has for the last six months been studying conditions in the Patent Office with a view toward making recommendations as to necessary changes. It has received and is considering thousands of suggestions.

The following extract is quoted from the Annual Report of the Secretary of Commerce for the fiscal year ended June 30, 1933:

"The year 1929, notable for its unprecedented business and commercial activity, witnessed the filing of a record-breaking number of patent applications. In the twelve months ended June 30, 1930, an aggregate of 91,430 patent applications and the staggering total of 117,790 applications of all forms were filed. The succeeding years have been featured by a recession in business and industry and this has been accompanied by a corresponding decrease in patent and other applications, culminating in the year just closed in the filing of 59,408 patent applications and a total of 79,822 for all applications. The Patent Office has not witnessed such a low ebb in new business since 1908 when only 58,527 patent applications were filed."

It is interesting to note that in spite of a marked decrease in the volume of new work presented to the Patent Office, the number of patents actually issued was comparatively large, namely, 50,766. This total is the highest in the history of the Patent Office with the single exception of that reached in 1932, when 52,572 patents were granted.

During the year several decisions have been handed down by the Courts in reference to patents relating to pulp and paper industry. The Court of Appeals of the Third Circuit upheld the validity of Mason's Patent No. 1,663,505 for a hard grainless fiber product and held the Celotex Corp. guilty of infringement. The District Court for the Northern District of Illinois held invalid Patent No. 1,589,947 issued June 26, 1926, to J. A. DeCew for a sizing process. The latter decision is being appealed.

* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 19 to 22, 1934.

[1] Chairman TAPPI Patents Committee, Philadelphia, Pa.

Stainless Alloy Steels

The Committee on Stainless and Heat Resisting Steels of the Subsidiary Companies of the United States Steel Corporation, has prepared and issued a new booklet relative to stainless steels, which will be of interest to all buyers and users of these products.

The subsidiary manufacturing companies of the United States Steel Corporation produce a comprehensive series of stainless and heat resisting steels, which are available in finished and semi-finished products. These alloys are all of the relatively low carbon type, as distinct from the stainless cutlery grades, and may be broadly classified under the following two main headings:

(a) Chromium Alloy Steels (Magnetic), (b) Chromium-Nickel Alloy Steels (Non-magnetic).

In each of these classes there are obtainable a number of types and grades, differing in chemical composition, so that a selection may be made to meet the requirements in various specific applications.

All of the stainless and heat resisting steels are electric furnace products, made under carefully controlled conditions. The Illinois Steel Company, having unusual facilities and complete equipment for this purpose, produces the semi-finished alloy steel for the other Subsidiary Companies of the United States Steel Corporation, as well as for its own requirements in the rolling of plates, bars, rounds, and miscellaneous shapes. The finished products are provided by the following companies: American Sheet and Tin Plate Company, Pittsburgh—sheets and light plates; American Steel & Wire Company, Chicago—Cold rolled strip, wire, and wire products; Carnegie Steel Company, Pittsburgh, and Illinois Steel Company, Chicago—Bars, plates, special sections, and semi-finished products; National Tube Company, Pittsburgh—Pipe and Tubular products. The U S S Chromium-Nickel Alloy Steels are produced under the licenses of the Chemical Foundation, Inc., New York, and Fried. Krupp A. G. of Germany.

Apart from its technical interest the booklet will be greatly appreciated as an unusual sample of art printing. It may be said without exaggeration that few more handsome works of this kind have never been issued. The book is decidedly worth sending for. Copies may be secured by addressing any of the subsidiary companies manufacturing Stainless Steel products, whose names are listed above.

Introducing Albion Offset

The American Writing Paper Company, Inc., of Holyoke, Mass., introduces their new offset paper, Albion Offset, with a double-barreled campaign to reach letterpress and offset printers.

Two sample books are available. "Bursting into Popularity," a six color offset job, 8x10, three folds, is for offset printers. Its cover design is made up of rockets at the moment of bursting. The shower of colored stars and streaks of bright light are on a deep-blue background. "Bursting Into Popularity" is handlettered across the center in white, while "Albion Offset" in blue neon-light effect is lettered across the bottom. Inside, on a buff background are suggested mailing pieces and general printing jobs. In the pocket is a sheaf of actual jobs on Albion Offset. Copy and a swatch complete the book.

The Sample Book for letterpress printers is a two-fold 5x8 printed in a rich black and silvery gray. The fashion illustration on the cover is a reproduction of an interesting dry-brush drawing, which makes good use of the paper by allowing it to show through. One of the figures of the illustration is carried inside the booklet. A brief, business-like sales-talk to letterpress printers faces a 4x7 swatch showing regular and fancy finishes of Albion Offset.

Mailing Piece No. 1 is a self-mailing broadside printed in black and blue.

Mailing Piece No. 2 is a three-fold broadside with an unusual accordion fold. Humorous cartoons illustrate the selling points of Albion Offset as the broadside is opened. Both editions are printed in a reddish brown and black, and business reply cards are enclosed. Trade paper advertising will be used to support the campaign.

Samples of the above material can be obtained from R. F. Linsert, Advertising Manager, American Writing Paper Company, Holyoke, Mass.

Don't gamble

with rubber rolls

PRODUCTION costs are too vital today to take a chance on some roll that might "kick up" in a short time. That is why so many paper mill superintendents insist on Tensilastic rubber rolls. They KNOW how Tensilastics perform.

Tensilastic show 30 to 40% longer life between grindings than ordinary rubber rolls. Actual comparative performace records in our files prove it.

Each Tensilastic rubber roll is made to fit the condition under which it is to run. The correct Tensilastic compound is selected in our laboratory, not what somebody *thinks* might "do the trick", but with a definite knowledge that that particular compound is correct.

Ten years of intensive scientific research by men who know both rubber and paper making is back of Tensilastic. And—every process of Tensilastic manufacture is under strict laboratory control. Guesswork is absolutely OUT.

Don't gamble with rubber rolls. Use Tensilastics. Know what Real Roll Service means.

TENSILASTIC
RUBBER ROLLS

Laboratory Planned and Processed by

AMERICAN WRINGER CO., Inc.

Woonsocket, R. I. Farnham, Que.

Walter S. Hodges, Lewis Bldg., Portland, Ore.

33 No. La Salle St., Chicago 461 Eighth Ave., N. Y.

WALDRON

Paper ROLLS

Better built and carefully conditioned to give the maximum number of service hours. Their longer life makes Waldron Rolls the least expensive to buy and use.

• • •

Waldron Rolls give you correctly proportioned shafts, heads and an extra measure of surface hardness.

OVER A CENTURY OF EXPERIENCE BUILDING PAPER CONVERTING MACHINES

JOHN WALDRON CORPORATION

Main Office and Works: NEW BRUNSWICK, N. J.

Chicago New York Portland, Ore.

THE DRAPER FELTS

All kinds and styles of Felts for all kinds and styles of Papers.

Write us about your Felt problems and let us help you reduce your Felt Costs—we will call anywhere at any time.

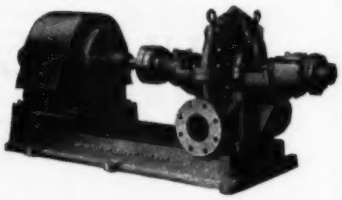
DRAPER BROS. COMPANY

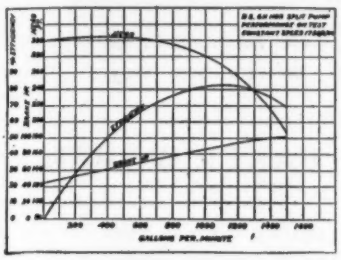
CANTON, MASS.

Woolen manufacturers since 1856

Higher efficiencies

for centrifugal pumps





NRA MEMBER U.S. WE DO OUR PART

THE last few years have witnessed tremendous strides in the design of double-suction horizontally-split centrifugal pumps. Hydraulic and mechanical losses which formerly were considered unavoidable in centrifugal pump operation have now been greatly reduced through increased knowledge of the flow of liquids in pump impellers and volute casings, advances in the design of both steady bearings and thrust bearings, and greater accuracy in machining and finishing processes.

Morris Machine Works, the originator of the centrifugal pump and the oldest American manufacturer, has naturally taken a leading part in these recent advances in centrifugal pump practice. The new line of Morris Double-suction Horizontally-split Pumps embodies all the developments which have proven to promote increased hydraulic and mechanical efficiency. In addition, this design also includes several distinctive features which assure lasting reliability and low maintenance expense.

These Morris Pumps are especially adapted for general pumping service, as in industrial plants, special process industries, water works, systems, etc.

SEND THE COUPON

for free copy of bulletin describing these new Morris Pumps and giving installation and operating limits of interest to every plant executive and engineer.

MORRIS
CENTRIFUGAL PUMPS

Morris Machine Works; Baldwinsville, N. Y.
Please send copy of Bulletin 152

Name .....
Company .....
Address .....
PTJ 2-34

INTERNATIONAL *Mill Brand* PAPERS

ADIRONDACK BOND
A popular watermarked, surface-sized sulphite bond in national use as a utility business paper. ADIRONDACK BOND is made in bright white and twelve attractive colors in standard sizes and weights.

ADIRONDACK LEDGER
A companion paper to ADIRONDACK BOND, 100% sulphite, watermarked, and surface-sized. Used extensively for records and book-keeping forms in all businesses. Made in bright white and buff.

ADIRONDACK COVER
A growing favorite with printers and buyers, for catalog, pamphlet, booklet and menu covers. ADIRONDACK COVER is made in bright white and seven attractive colors in Antique, Leather, Handmade and Ripple finishes in two weights and three sizes.

TICONDEROGA BOOK
Years of reputation for quality and merit have brought just recognition to TICONDEROGA BOOK papers among printers and publishers where distinction and excellence of printing are required. The TEXT is watermarked, deckle-edged and made in laid and wove finishes in bright white and seven pastel colors—ENGLISH FINISH, in bright white and India—and EGGSHELL, watermarked, in white and India.

CHAMPLAIN BOOK
This is a new, moderately priced book paper of unusual quality that is taking a firm position in the book paper field. CHAMPLAIN BOOK is made in TEXT in laid finish, white and five delicate pastel colors—in ENGLISH FINISH, SUPERCALENDERED and EGGSHELL, in white and India. Sizes and weights for all requirements.

SARATOGA BOOK
A utility book paper of good quality made to give satisfactory printing results at low cost. SARATOGA BOOK is made in SUPERCALENDERED, ENGLISH FINISH and ANTIQUE LAID in white and six MATCHED colors—and in EGGSHELL in white and India.

LEXINGTON OFFSET
A surface-sized offset paper made in standard and ten fancy finishes, free from fuzz and adapted for close register printing. Special sizes and weights made to order in sheets or rolls.

BEESWING MANIFOLD
An outstanding value in a watermarked, manifold paper—low in cost, uniform in weight, good strength and free from pin-holes. Made in white and five pleasing pastel colors in standard sizes.

DISTRIBUTED NATIONALLY THROUGH LEADING PAPER MERCHANTS

Made by

INTERNATIONAL PAPER COMPANY
220 East 42nd Street, New York, N. Y.
ATLANTA • BOSTON • CHICAGO • CLEVELAND
PHILADELPHIA • PITTSBURGH

West Virginia Pulp and Paper Company

280 Park Ave. New York — 35 East Wacker Drive Chicago

503 Market St., San Francisco, Cal.
Sixth and Chestnut Sts., Philadelphia, Pa.

Manufacturers of

ENGLISH FINISH SUPERCALENDERED MACHINE FINISHED BOOK and LITHOGRAPHIC PAPERS

Offset, Envelope, Bond, Writing, Mimeograph, Ledger, Cover and Music Papers, Index Bristol, Post Card and Label Papers

High Grade Coated Book

also

KRAFT WRAPPING AND KRAFT ENVELOPE

Bleached Spruce Sulphite Pulp, Soda and Kraft Pulp

MILLS:

Mechanicsville, New York — Tyrone, Pennsylvania
Luke, Maryland — Williamsburg, Pennsylvania
Covington, Virginia — Cass, West Virginia

TRIUNE AND MULTIPLE PLY DRYER FELTS

Serve every Felt Purpose in an efficient and satisfactory way.

ENGLISH or BAKER WOVEN

Made in three, four, five and six ply—60" to 288" wide.

FITCHBURG DUCK MILLS
FITCHBURG, MASS.

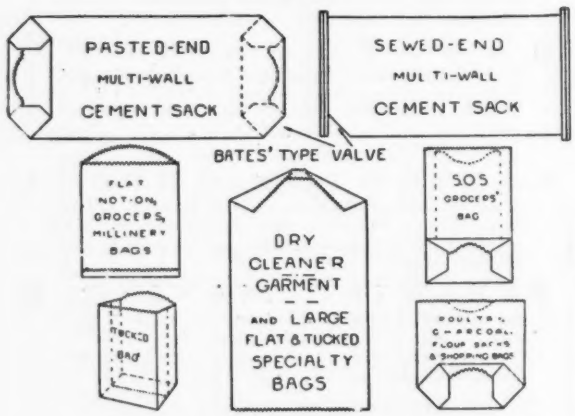
For 89 Years Makers of Fine Faced Felts For Papermakers

POTDEVIN

OVER 60 MODELS OF PAPER BAG

MACHINERY

FOR PLAIN OR PRINTED


PASTED-END MULTI-WALL CEMENT SACK
SEWED-END MULTI-WALL CEMENT SACK
BATES' TYPE VALVE
FLAT NOTION, GROCERS, MILLINERY BAGS
DRY CLEANER GARMENT AND LARGE FLAT & TUCKED SPECIALTY BAGS
SOS GROCERS' BAG

ALSO MULTI-COLOR PRINTING PRESSES - COMPENSATORS BOTTOMERS - GLUING - PASTING - PAPER WAXING MACHINERY, ETC.

POTDEVIN MACHINE CO.

1223 38th STREET — BROOKLYN, N. Y., U. S. A.

H. & M.

QUALITY *and* SERVICE

is the basis of our success in supplying dyestuffs to the

Paper Trade

Our representatives and laboratory welcome your inquiries in reference to lowering your color costs or improving your present standards.

HELLER & MERZ CORPORATION
90 West Street, New York, N. Y.

BOSTON 35 Hartford St. — CHICAGO 146 W. Kinzie St. — SPRINGFIELD, MASS. 40 Albert St.

PHILADELPHIA — South St. and Delaware Ave.
Factories—Newark, N. J. and Bound Brook, N. J.

A UNIT OF AMERICAN CYANAMID COMPANY

BRONZE
BRASS
MONEL METAL

ROLLS - - ROLL COVERS - - SHELLS
4"-46" Diameter
Write for Bulletin No. 532

COPPER
ALUMINUM
NICKEL ALLOYS

Stuff Pump
Bulletin
No. 500

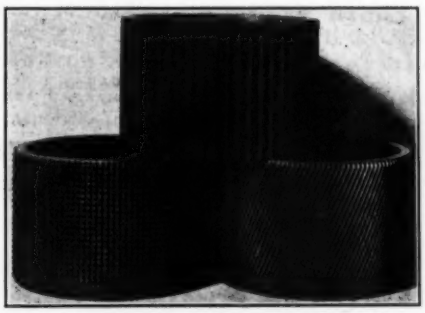
Sandusky Foundry & Machine Co.
Formerly
The Paper & Textile Machinery Co.

Shower Pipe
Bulletin
No. 121

SANDUSKY, OHIO

TI-MACHINE STEEL SHELL BURRS

Spiral—Straight—Diamond



Manufactured from steel of special analysis. Heat treated and tested for uniform hardness. Furnished 3½" I. D. and 3⅞" I. D. in various cuts and leads.

Manufactured by
TICONDEROGA MACHINE WORKS
TICONDEROGA, N. Y., U. S. A.

ROLLS

ALL KINDS AND SIZES FOR PULP AND PAPER MILL MACHINERY

APPLETON CALENDER ROLLS

Noted for their fine finishing qualities and ability to give unusually long wear. They meet exacting operating demands, for from the selection and preparation of quality materials to the final finishing Appleton Calender Rolls are built to fit your production requirements.

THE APPLETON MACHINE CO.
APPLETON, WISCONSIN

Eastern Representative, NASON MANUFACTURING COMPANY
Paper Mill Department, 71 Fulton Street, New York City

ADHESIVES

for

THE PAPER INDUSTRY

Let Us Quote You On Your Requirements

THE ARABOL MFG. CO.
110 E. 42nd Street, NEW YORK, N. Y.
54th Ave. & 18th St., CICERO, ILLINOIS

All technical problems treated with strictest confidence

ARABOL

ARABOL

MARCY OPEN-END ROD MILLS

for Perfect Beating of Every Type of Stock

FACTS

1. Positively reduce power costs.
2. Absolute control under all conditions.
3. Maximum preservation of initial strength.
4. Preserve full fibre length.
5. Positive separation of fibre bundles.
6. Positively no unbeaten stock by-passed.

By equipping your mill with MARCY ROD MILLS—you reduce upkeep and labor costs—yet produce a product of highest quality.

Specific inquiries are invited.

The MINE and SMELTER SUPPLY COMPANY
Denver, Colorado

RELIABLE

PMC
SUPERIOR CHEMICALS
Being always on the job with our research, manufacturing, and service facilities makes PMC paper-making chemicals dependable
PMC
SUPERIOR CHEMICALS
ROSIN SIZE • SATIN WHITE
INDUSTRIAL CHEMICALS
PAPER MAKERS CHEMICAL CORPORATION
KALAMAZOO, MICHIGAN
PLANTS IN ALL LARGE PAPER-MAKING AREAS
Manufacturers of Hercules Wood Rosins and Steam-Refined Pine Oils

BOLTON
BRONZE JORDAN
KNIVES
JOHN W. BOLTON & SONS, INC.
LAWRENCE—MASSACHUSETTS
5792

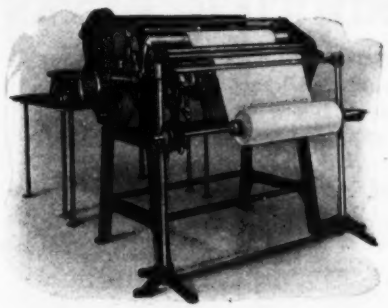
E. J. KELLER CO., INC.
IMPORTERS OF RAGS AND WOODPULP
200 FIFTH AVENUE
TELEPHONE GRAMERCY 5-6380
OLD AND NEW COTTON RAGS
OLD AND NEW LINEN RAGS
COTTON JUTE AND FLAX
WASTES—WOODPULP

PULP MILL MACH'Y FINISHING ROOM MACH'Y
— FRICTION CLUTCHES —
The MOORE & WHITE CO.
PHILADELPHIA, PA.
PAPER MILL MACHINERY

PERFORATED METAL SCREENS
MADE SPECIALLY FOR PAPER and PULP MILL USE
Copper, bronze, steel or other metals. Heat-treated.
HENDRICK MFG. CO.
60 Dundaff St., Carbondale, Pa.
Offices in Principal Cities

INTERNATIONAL WIRE WORKS
Fourdrinier Wires
MENASHA, WISCONSIN

PORT ROYAL
BLEACHED SPRUCE SULPHITE
EDWARD B. MURRAY
Selling Agent
405 LEXINGTON AVE. NEW YORK



THE NEW 1934 MODEL **BECK SHEETING MACHINE**

For CELLOPHANE, GLASSINE, WAXED, and all other kinds of Paper—Printed or Plain

Extreme Accuracy — Large Output

Ball Bearing Equipped

CHARLES BECK MACHINE COMPANY

419 No. 13th Street Philadelphia, Pa.

WOOD PULP AGENTS

PRICE & PIERCE, Ltd.,

60 EAST 42nd ST.

NEW YORK

Send for this valuable felt cleaning data

WRITE today for your copy of this informative pamphlet and our latest data bulletin on the subject of efficient felt cleaning.

A request for these on your business letterhead will bring them to you promptly.

Longer life for your felts means larger profits for your mill

MAGNUS CHEMICAL COMPANY

Manufacturers of Cleaning Materials

24 South Avenue Garwood, N. J.

Magnus CLEANERS

Magnus FELT SOAP

LUBRICATION

for

PULP and PAPER MILL MACHINERY

Let us show you what a GOOD lubricant can do towards savings on power and less wear on your equipment.

WE MANUFACTURE LUBRICANTS FOR ALL PURPOSES

PORT HURON XYLITE COMPANY

GREASES, OILS, SOAPS

PORT HURON MICHIGAN

GEORGE F. HARDY

Consulting Engineer

305-309 Broadway, New York City, N. Y.

Member—Am. Soc. C.E.—Am. Soc. M.E.—Eng. Inst. Can.

Consultation	Paper and Pulp Mills
Reports	Hydro-Electric and
Valuations	Steam Power Plants
Estimates	Plans and Specifications

GLAZED TILE TANKS

Cost less and much more durable than concrete or cypress. Cleaner. Will not "slime up." Over 300 now in use in mills from Maine to Minnesota.

KALAMAZOO

TANK and SILO COMPANY

Kalamazoo Michigan

We've been building wood stock chests, acid tanks and blow pits for over 60 years.

Hardy S. Ferguson & Co.

Consulting Engineers

200 Fifth Avenue, New York City

Hardy S. Ferguson.....Member A.S.C.E., A.S.M.E., E.I.C.
Moses H. Tease .....Member A.S.M.E., E.I.C., A.S.C.E.
J. Wallace Tower .....Member A.S.C.E., A.S.M.E.

Consultation, reports, valuations, and complete designs and engineering supervision for the construction and equipment of

Pulp and Paper Mills and other Industrial Plants.
Steam and Hydro-electric Power Plants
Dams and other Hydraulic Structures.

JOHN W. BANKER

Paper Co., Inc.

17-19 White St. New York, N. Y.

TWINES—YARNS—CORDAGE

of every description

Specialists to the Paper Trade
Time Contracts—Carload Lots

PAPER MAKERS IMPORTING CO. INC. PHILADELPHIA, PENNSYLVANIA, U.S.A.

FINEST PAPER CLAYS

GUARANTEED SAVINGS

Send us your inquiries

COLOR and SLIME reduction.
White water sedimentation eliminating sand filter clogging.
Increased retention of size on fibre.
Water supply and conditioning.
Reclamation of fibre and filler.
Wider pH operation within non-corrosive limits, waste water recovery.
Flexible treatments readily adapted to the varying water problems.
Reports, surveys, estimates and designs.

M. L. MILLER—*Engineers*

310 S. Michigan Ave. CHICAGO, ILL.

PERFECTION GUMMED PAPERS

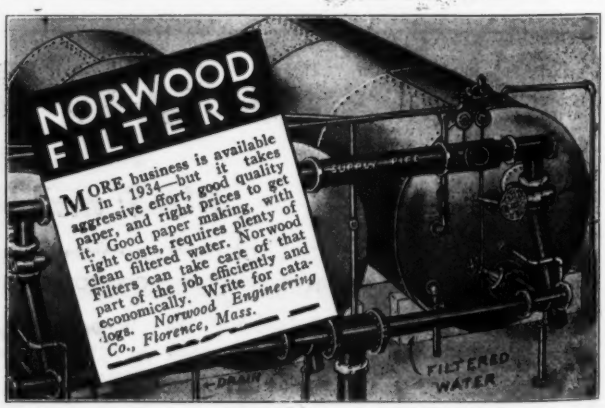
All that the Name Implies

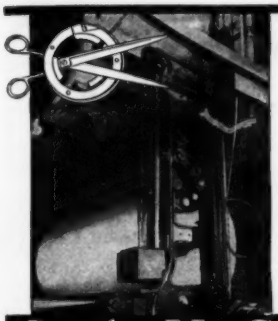
"THEY ARE ABSOLUTELY FLAT"

ASK FOR SAMPLE BOOK
WITH COMPLETE DATA AND PRICES

PAPER MANUFACTURERS CO. INC.

PHILADELPHIA, PA.


NORWOOD FILTERS
MORE business is available in 1934—but it takes aggressive effort, good quality paper, and right prices to get it. Good paper making, with right costs, requires plenty of clean filtered water. Norwood Filters can take care of that part of the job efficiently and economically. Write for catalogs. Norwood Engineering Co., Florence, Mass.
FILTERED WATER



BETTER your product—lower your manufacturing costs—with Langston Slitters and Rewinders. Every roll square-edged, tightly wound, dust-free. Types for every need. Ask for catalog.

Samuel M. Langston Co., Camden, N. J

LANGSTON SLITTERS

DILLON PUMPS

DILLON MACHINE COMPANY
LAWRENCE—MASSACHUSETTS
5819

Gilman Paper Company

Manufacturers of

PAPER BAGS

SACKS, GUMMED TAPE

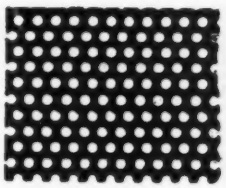
NEWSPRINT & KRAFT PAPER

Executive Offices, 475 Fifth Ave., New York

Mills and Bag Factory at Gilman, Vermont

Perforated Metal Screens

For Pulp and Paper Mills



STEEL, COPPER, BRASS, BRONZE, MONEL METAL and other Alloys punched for Centrifugal and Rotary Screens, Pulp Washers, Drainer Bottoms, Filter Plates, etc.

".065" Round

CHARLES MUNDT & SONS
63-65 FAIRMONT AVE. JERSEY CITY, N. J.

PERMANENT COLORS

Browns Greens Reds Yellows

BROWNS
Oxides of Iron
Turkey Umbers

GREENS
Chromic Oxides
Guignet's Green

REDS
All types and shades of Oxides of Iron

YELLOWS
Ochres
Iron Hydroxides

Asbestines and Talcs for Fillers

C. K. WILLIAMS & CO.
EASTON, PA.

CASEIN

CASEIN-CO A BORDEN PRODUCT BRAND

Uniform Quality

Dependable Service

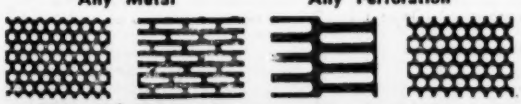
THE CASEIN MFG. COMPANY OF AMERICA, Inc.
205 E. 42nd St. New York, N. Y.
Oldest and Largest Producers of Casein in America

Pulp and Paper Mill Screens

Of Stainless Steel—Copper—Bronze—Monel—Chemical Resisting Alloys

Perforations that are accurate in size

Any Metal Any Perforation



The Harrington & King PERFORATING CO.

5652 FILLMORE ST., CHICAGO, ILL. 114 LIBERTY ST., NEW YORK, N.Y.

Hungerford Water Filters

Inversand Zeolite Water Softeners

(over 200 sizes)

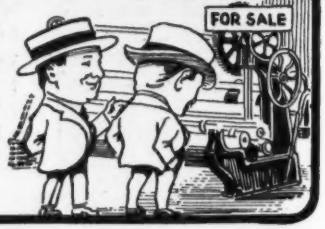
and

Basex Greensand Zeolite

1933 Catalog and Sample of Zeolite Sent on Request

Hungerford & Terry, Inc.
CLAYTON, NEW JERSEY

The CLEARING HOUSE of THE PAPER TRADE



"SITUATIONS WANTED" ADVERTISEMENTS—4c a word, double rate for heavy face type. Minimum charge $1.00. If repeated ½ rate will be charged for each consecutive repetition.

"HELP WANTED" ADVERTISEMENTS—4c a word. Double rate for heavy face type. Minimum charge $1.00.

CLASSIFIED ADVERTISEMENTS—4c a word. Double rate for heavy face type. Minimum charge $1.00.

All classified "Help Wanted" and "Situation Wanted" advertisements are payable in advance.

HELP WANTED

SALARIED POSITIONS. $2,500 to $25,000. This thoroughly organized advertising service of 24 years' recognized standing and reputation carries on preliminary negotiations for positions of the calibre indicated, through a procedure individualized to each client's personal requirements. Several weeks are required to negotiate and each individual must finance the moderate cost of his own campaign. Retaining fee protected by a refund provision as stipulated in our agreement. Identity is covered and, if employed, present position protected. If you have actually earned over $2,500, send only name and address for details. R. W. Bixby, Inc., 117 Delward Bldg., Buffalo, N. Y.

EXCELLENT OPPORTUNITY—An eastern mill making coated papers and specialties anxious to secure salesman in middle west, preferably located in Chicago, to call on paper merchants and box makers. Line could be nicely handled by man already calling on this trade with non-competing papers. Write fully, giving experience and references. Address Box 34-71, care Paper Trade Journal. F-22

EXPERIENCED SALESMAN — Glassine and waxed paper bags. Newark Glassine Bag Co., 44-48 Jelliff Ave., Newark, N. J. F-22

EXCELLENT OPENING immediately available for grocers' bag salesman to sell jobbing trade. Must be willing to move anywhere. Write qualifications. Address Box 34-72, care Paper Trade Journal. F-22

CYLINDER MACHINE TENDER and Back Tender wanted. Must be familiar with test liner and box board. Address Box 34-82, care Paper Trade Journal. F-22

SALESMAN—Wanted an experienced salesman of fine papers in New England. State experience and qualifications fully. Address Box 34-81, care Paper Trade Journal. M-8

SITUATIONS WANTED

CHEMIST—Young man, executive caliber. Four years laboratory research and plant control with kraft pulp and paper mill. Practical with theoretical background. Married. Employed. Address Box 34-62, care Paper Trade Journal. F-22

PAPERMAKER wants position as assistant superintendent or beater room foreman and colorman. Familiar in making higher and lower grades of paper, also glassine and greaseproof. Address Box 34-55, care Paper Trade Journal. M-8

MECHANICAL ENGINEER with 20 years practical experience in pulp and paper mills open for engagement as department Superintendent, foreman or draftsman. Best of references. Address Box 34-63, care Paper Trade Journal. F-22

PLANT ENGINEER, having extensive experience in design, construction, maintenance and operation of Pulp and Paper Mills, desires position. Address Box 34-33, care Paper Trade Journal. M-8

SITUATIONS WANTED

PAPERMAKER wants position as assistant superintendent or machine room boss. Long practical experience on Rag content, Ledger, Bond, Vellum and offset paper. Will expect position on trial. Age 40. A-1 references. Address Box 34-83, care Paper Trade Journal. F-22

SALES REPRESENTATION DESIRED by aggressive and experienced Paper Executive with following amongst Paper Merchants, Converters and large consumers. An unusual opportunity to obtain the services of a high grade executive with New York Office, who has a successful record of accomplishment in executive and selling capacities. Address Box 34-51, care Paper Trade Journal. F-22

TRAFFIC MANAGER, now employed, desires to make a change. Experienced in all forms of transportation including pool car shipment. Also credits, collections and office management. Can effect a saving for companies interested. Will furnish references. Address Box 33-84, care Paper Trade Journal. M-1

EXPERIENCED all around paper mill mechanic. Qualified to assume full responsibility on construction or maintenance. Guarantee results, efficiency and minimum shut downs. Address Box 34-34, care Paper Trade Journal. TF

GREASEPROOF and Glassine Superintendent, open March first for new connection. Many years experience with leading manufacturers. Competent, reliable. Guarantee superior. Transparency, grease-resistance, strength and production. Best references. Address Box 34-59, care Paper Trade Journal. F-22

SUPERINTENDENT wants position. Long practical experience on Book, Fine Writing, Bond, Ledger, also Blotting and Filter Papers, Baker and Butchers Manila and many colored Specialties. Good organizer and can get results. Twenty years in last position. A-1 references. Address Box 34-42, care Paper Trade Journal. M-1

GROUNDWOOD SUPERINTENDENT or Tour Boss. 20 years experience in United States and Canada, on all grades of pulp and types of grinders. Good on maintenance. Age 40. References. Address Box 34-74, care Paper Trade Journal. F-22

MAINTENANCE MAN wants position. Capable of giving paper mill equipment proper inspection, adjustment, lubrication and maintenance. Experienced on Fourdrinier, cylinder, old type and modern high speed machines. Capable of taking charge of maintenance in a medium-sized mill. Not afraid of work. Address Box 34-79, care Paper Trade Journal. F-22

Address Replies

to advertisements appearing under Box Numbers in care of

PAPER TRADE JOURNAL
15 West 47th Street,
New York, N. Y.

SITUATIONS WANTED

OPERATING ENGINEER or assistant wants position. Technical graduate. Experience in large book mill with coating and pulp mills. Address Box 34-73, care Paper Trade Journal. F-22

WANTED

WANTED—Used Toilet Rewinder. Must be in good condition. Give complete details. Address Box 34-19, care Paper Trade Journal. F-22

WANTED—Two paper machine dryers, 48" diameter, 132" face, including frames, gears, packing boxes and felt rolls. State make of dryers. Address Box 34-76, care Paper Trade Journal. M-1

WANTED—Niagara type valley laboratory beater with controlled bed plate, preferably with washer; also hydraulic press and hot plate, any make. Address Box 34-65, care Paper Trade Journal. F-22

JOB LOTS, rejects, side runs and obsolete lots of paper and paper products. Goldman Paper and Paper Stock Co., Inc., 316 No. Third St., Philadelphia, Pa. M-8

A COMPANY, newly organized, composed of men experienced in selling all grades of paper and board, wishes to represent manufacturers and converters on such grades. Location large Eastern Seaboard City. Strictly commission basis. Satisfactory references will be given and all replies will be treated confidentially. Address Box 34-78, care Paper Trade Journal. M-1

WANTED: Two Second-hand Impco Knotters for Pacific Coast Mill; must be in operating condition. Quote lowest price, shipping weight and delivery point. Address Box 34-86, care Paper Trade Journal. F-22

WANTED: One Knife Coating Machine, at least 50" in width; also 1 Festooning Rack, 50" wide or over. Reply Box 34-85, care Paper Trade Journal. M-15

FOR SALE

FOR SALE

New Cylinder Paper Machine—Molds 36" x 91". 4 Baby Presses. 1 Primary Press. 3 Main presses with rolls 20" x 93". 32 Dryers 48" x 88". 2 stacks of calenders. Duplex Cutter.

Pusey & Jones Fourdrinier Paper Machine. Wire 104" by 65'. Three sets presses. 30 Dryers 48" by 102". English reel.

FRANK H. DAVIS COMPANY
175 Richdale Ave. Cambridge, Mass.
TF

FOR SALE: Chicago Pneumatic Tool Company Duplex Horizontal Reciprocating Vacuum Pump, 1775 Cubic Feet piston displacement—used only few months. Excellent condition. Price extremely low for quick sale. Beloit Iron Works, Beloit, Wisconsin. M-1

PAPER COATING MACHINERY—Waxing, Oiling, Gumming, Gluing, Asphalt Duplexing Laboratory Coating and Treating machines. High speed. New improvement. MAYER COATING MACHINES COMPANY, INC., Rochester, N. Y. T.F.

MISCELLANEOUS

TO PAPER MANUFACTURERS
Under NRA CODES Quality will get orders.
Efficiency of operation will bring profits.
Specialties mean larger profits.
HAROLD H. BROWN
Specialist in Quality & Quantity Production and development of Specialties.
475 Fifth Ave., New York, N. Y.

FOR SALE

FOR SALE: TWO—Hudson Sharp paper napkin folding machines in good condition. One adjustable 12" to 14", and the other 13" to 18", for making Crepe and Semi-Crepe Quarterfold napkins. Embossing machines and other equipment priced low for quick disposal. Address Box 34-49, care Paper Trade Journal. TF

FOR SALE—65" Sheridan "New Model" Paper Cutter latest type machine, A-1 condition. Address Box 34-23, care Paper Trade Journal. F-22

BUSINESS OPPORTUNITY

AN OPPORTUNITY FOR PAPER MILL producing bleached sulphite and coated boards. An experienced executive desires to associate himself with mill owners or interested bankers to develop converting plant. Product with increased demand, wide margin profit, fundamentally sound, consistent output. Improved equipment available. Sales and production organization—clientele. Interview will disclose timely opportunity. Address Box 34-80, care Paper Trade Journal. F-22

EVERY WEEK—

The Paper Trade Journal publishes the happenings of interest in the Pulp and Paper Industry—Covers it completely is saying it a little clearer.

To reach buyers in this field, advertising in these columns can carry your message to many that are interested in your products.

As a member of the Audit Bureau of Circulations our circulation claims are not only authentic but provable.

Paper Trade Journal

15 West 47th Street New York

Langdon Manufacturing Co.
Collapsible Winder Shafts
Full range of sizes for all purposes
Sturdy all-steel construction
High speed.....Quick Acting
For Particulars write Box 517, Portland, Ore.

YOUR AD IN THIS SPACE
WILL BRING RESULTS

Appleton
Felts and Jackets
Appleton Woolen Mills, Appleton, Wisconsin

Appleton Wires
are good wires
APPLETON WIRE WORKS INC. APPLETON WIS.

WHERE TO BUY

ABRASIVES
Carborundum Co.
Norton Co.

ACID PUMPS
De Laval Steam Turbine Co.
Frederick Iron and Steel Co.

ADHESIVE APPLYING MACHINES
Potdevin Machine Co.

ACIDS (Sulphuric)
American Cyanamid & Chem. Corp.
Pennsylvania Salt Co.

ACID SYSTEMS
Jenssen Company, G. D.

ACID TANKS
Kalamazoo Tank & Silo Co.

ADDING MACHINE ROLLS
Paper Manufacturers Co., Inc.

AGITATOR EQUIPMENT
Chain Belt Co.
Improved Paper Machinery Corp.
Valley Iron Works

AGITATORS
Chain Belt Co.
Dilts Machine Works, Inc.
Downingtown Mfg. Co.
Improved Paper Machinery Corp.
Moore & White Co.
Valley Iron Works Co.

AIR CONDITIONING EQUIPMENT
Ross Engrg. Corp., J. O.
Thwing Instrument Co.

AIR DRYING MACHINERY
Waldron, John, Corp.

AIR PREHEATING UNITS
Ross Engineering Corp., J. O.

ALLOY METALS
Chromium Corporation of America
Michigan Steel Casting Co.

ALLOY STEELS
American Sheet & Tin Plate Co.

ALUM
American Cyanamid & Chemical Corp.
Paper Makers Chemical Corp.
Pennsylvania Salt Mfg. Co.

AMMONIA, Anhydrous
American Cyanamid & Chem. Corp.
Mathieson Alkali Works, Inc.
Pennsylvania Salt Co.

AMMONIA, Aqua
American Cyanamid & Chem. Corp.
Mathieson Alkali Works, Inc.

ANALINE PRINTING PRESSES
Potdevin Machine Co.

AQUA AMMONIA
American Cynamid & Chemical Corp.

ARCHITECTS AND ENGINEERS
Ferguson, Hardy S.
Hardy, George F.
Jenssen Company, G. D.
M. L. Miller
Simons, V. D.
Stebbins Eng. & Mfg. Co.

ARMORING, FLOOR
Hendrick Mfg. Co.

ASBESTINE PULP
International Pulp Co.

ASBESTOS DRYER FELTS
Asten-Hill Mfg. Co.

AUTOMATIC WATER FEEDER
Merritt Engineering & Sales Corp., The

BACKING WIRES
Appleton Wire Works
International Wire Works

BAG GLUES
Arabol Manufacturing Co.

BAG MACHINES
Heinrich Inc., H. H.
Potdevin Machine Co.
Smith & Winchester Mfg. Co.

BALL BEARINGS
S. K. F. Industries
Timken Roller Bearing Co.

BARK & SCREENING PRESSES
Fibre Making Processes, Inc.

BARKERS
Valley Iron Works Co.

BARKING DRUMS
Fibre Making Processes, Inc.

BEARINGS
Chain Belt Co.
Gatke Corporation
Link Belt Co.

BEARINGS (Tapered Roller)
Timken Roller Bearing Co.

BEARINGS (Friction, Anti-Friction, Ball and Thrust)
Montague Machine Works

BEARINGS (Thrust)
Gatke Corporation
S. K. F. Industries
Timken Roller Bearing Co.

BEARINGS (Water and Graphite Lubricate)
Gatke Corporation

BEARINGS, ROLLER
S. K. F. Industries
Timken Roller Bearing Co.

BEATING ENGINES
Dilts Machine Works, Inc.
Emerson Manufacturing Co.
Jones & Sons Co., E. D.
Valley Iron Works Co.

BEATER BED PLATES
Bolton & Sons, Inc., John W.
Dilts Machine Works, Inc.
E. D. Jones & Sons Co.
Taylor, Stiles & Co.
Valley Iron Works Co.

BEATER CONTROLS
Thwing Instrument Co.

BEATER ENGINE BARS
Bolton & Sons, Inc., John W.
Dilts Machine Works, Inc.
E. D. Jones & Sons Co.
Taylor, Stiles & Co.
Valley Iron Works Co.

BEATER HOODS
Dilts Machine Works, Inc.
E. D. Jones & Sons Co.

BEATER ROLLS
Dilts Machine Works, Inc.
Emerson Manufacturing Co.
E. D. Jones & Sons Co.

BEATER STOCK RECORDER
Merritt Engineering & Sales Corp., The

BELTING
Goodrich Rubber Co.
Goodyear Tire & Rubber Co.
Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc.
U. S. Rubber Co.

BELT LACING
Flexible Steel Lacing Co.

BINOCULAR MICROSCOPES
Bausch & Lomb Optical Co.

BLEACH EJECTORS
Perkins & Sons, Inc., B. F.

BLEACHING APPARATUS
E. D. Jones & Sons Co.
Moore & White Co.

BLEACHING POWDER
Mathieson Alkali Works, Inc.
Pennsylvania Salt Co.

BLEACHING PROCESS
Electro Bleaching Gas Co.
Pennsylvania Salt Mfg. Co.

BLOW PIPING
Moore & White Co.

BLOW PITS
Kalamazoo Tank & Silo Co.

BLOWERS (CENTRIFUGAL)
Connersville Blower Co.
De Laval Steam Turbine Co.
General Electric Co.
Improved Paper Machinery Corp.
Roots - Connersville - Wilbraham
Ross Engineering Corp., J. O.

BOILER PRESERVATIVES
Magnus Chemical Co.

BOTTOMS (Steel & Wood)
Kalamazoo Tank & Silo Co.

BRASS COLLAPSIBLE SHAFTS
Moore & White Co., The

BREAKER BEATER WATER FEEDER
Merritt Engineering & Sales Corp., The

BUCKETS (elevating)
Chain Belt Co.
Hendrick Mfg. Co.
Link Belt Co.

BULKERS (Pressure)
B. F. Perkins & Son, Inc.

BUNDLING PRESSES
Paper Converting Machine Co., Inc.
Potdevin Machine Co.

BURSTING TESTERS
B. F. Perkins & Son Co.

CABINETS
Griffith-Hope Co.

CALENDER DOCTORS
Dillon Machine Co.
Ticonderoga Machine Works

CALCIUM HYPOCHLORITE
Mathieson Alkali Works, Inc.
Pennsylvania Salt Mfg. Co.

CALENDER ROLLS
Farrel-Birmingham Co.
Lobdell Car Wheel Co.
Perkins & Son, Inc., B. F.
Textile Finishing Mchy. Co.
Waldron Corp., John

CALENDER ROLL GRINDERS
Farrel-Birmingham Co.
Lobdell Car Wheel Co.
Smith & Winchester Mfg. Co.
Ticonderoga Machine Works

CALENDERS
Beloit Iron Works
Farrel-Birmingham Co.
Lobdell Car Wheel Co.
Moore & White Co.
Norwood Engrg. Co.
Perkins & Son, Inc., B. F.
Smith & Winchester Mfg. Co.
Textile Finishing Mchy. Co.

CAMERAS (Photomicrographic)
Bausch & Lamb Optical Co.

CALIPERS (Micrometer Roll)
Farrel-Birmingham Co.
Lobdell Car Wheel Co.

CARBON BISULPHIDE
Pennsylvania Salt Co.

CASEIN
American Cyanamid & Chemical Corp.
The Casein Manufacturing Co. of America
Paper Makers Chemical Corp.

CASTINGS
Chain Belt Co.
Montague Machine Co.

CASTINGS (Brass, Bronze, Iron)
Smith & Winchester Mfg. Co.

CASTING (Gray Iron)
Chain Belt Co.
Farrel-Birmingham Co.
Frederick Iron and Steel Co.
Lobdell Car Wheel Co.
Smith & Winchester Mfg. Co.

CASTINGS (Iron)
Chain Belt Co.
Hamblet Machine Co.
Link Belt Co.

CASTING (Chrome Nickel Alloy)
Lobdell Car Wheel Co.
Michigan Steel Casting Co.

CAUSTIC SODA
American Cyanamid & Chemical Corp.
Mathieson Alkali Works, Inc.
Paper Makers Chemical Corp.
Pennsylvania Salt Mfg. Co.

CELLOPHANE ADHESIVES
Arabol Manufacturing Co.

CELLULOSE BAG MACHINERY
Potdevin Machine Co.

CENTRIFUGAL MACHINERY (Special)
De Laval Steam Turbine Co.

CHEMICALS, COLORS, ETC.
American Cyanamid & Chemical Corp.
Campbell & Co., John
E. I. DuPont de Nemours & Co., Inc.
Electro Bleaching Gas Co.
General Dyestuff Corp.
Geigy Co., Inc.
New York Color & Chemical Co., Inc.
Paper Makers Chemical Corp.
Williams & Co., C. K.

CHEMICAL (Pulp Mill Equipment)
Jenssen Company, G. D.

CHEMICAL FEEDERS
Fibre Making Processes, Inc.

CHILLED IRON ROLLS
Farrel-Birmingham Co.
Lobdell Car Wheel Co.
Perkins & Son, Inc., B. F.

CHIP CUTTERS
Fibre Making Processes, Inc.

CHIP DIGESTERS
Fibre Making Processes, Inc.

CHIPPERS
Valley Iron Works Co.

CHIP SCREENS
Appleton Wire Works
Fibre Making Processes, Inc.
Moore & White Co.
International Wire Works

CHLORINE
Electro Bleaching Gas Co.
Mathieson Alkali Works, Inc.
Pennsylvania Salt Co.

CHROME PLATE
Chromium Corporation of America

CHUCKS
John Waldron Corp.

CLAY (China)
American Cyanamid & Chemical Corp.
Paper Makers Importing Co.
Vanderbilt Co., R. T.

CLEANING MATERIALS
Magnus Chemical Co.

CLUTCHES
Hunt Machine Co., Rodney
Link Belt Co.
Moore & White Co.

CLUTCH PULLEYS
Moore & White Co.

COATING MACHINERY
Moore & White Co.
Potdevin Machine Co.
Waldron Corporation, John

COATING MATERIALS
Paper Makers Chemical Corp.

COGS
Bowsher, N. P., The

COLLAPSIBLE WINDER SHAFTS
Langdon Mfg. Co.
Moore & White Co.

COLORIMETERS
Bausch & Lomb Optical Co.

COLOR ANALYZERS
Thwing Instrument Co.

COLORS & DYESTUFFS
Campbell & Co., John
New York Color & Chemical Co., Inc.
Paper Makers Chemical Corp.

COLOR MIXING EQUIPMENT
Waldron, John, Corp.

COMBINING MACHINES
Waldron Corp., John

COMPRESSORS (Air)
Connersville Blower Co.
General Electric Co.
Roots - Connersville - Wilbraham

COMPRESSORS (Centrifugal)
De Laval Steam Turbine Co.

CONSISTENCY REGULATOR
Merritt Engineering & Sales Corp., The

CONSULTING ENGINEERS
Ferguson, Hardy S.
Hardy, Geo. F.

CONTINUOUS BEATER ATTACHMENTS
E. D. Jones & Sons Co.

CONTINUOUS BEATERS
E. D. Jones & Sons Co.
Valley Iron Works Co.

CONTINUOUS BEATER WATER FEEDER
Merritt Engineering & Sales Corp., The
Trimbey Machine Works.

CONTROLLING INSTRUMENTS
Merritt Engineering & Sales Corp., The
Thwing Instrument Co.

CONTROLS (Electric)
Thwing Instrument Co.

CONVEYORS (Trim)
Link Belt Co.
Ross Engineering Corp., J. O.

COOKING & RECOVERY PROCESS
Fibre Making Processes, Inc.
Ross Engineering Corp., J. O.

CORES (Paper)
Climax Tube Co.
Ellxman Paper Co.

CORES (Steel)
Smith & Winchester Mfg. Co

COTTON CALENDER ROLLER
Perkins & Son, Inc., B. F.
Textile Finishing Mchy. Co.

COUCH ROLLS
American Wringer Co.
Beloit Iron Works
Hunt Machine Co., Rodney
Improved Paper Machinery Corp.
Montague Machine Co.
Moore & White Co.

WHERE TO BUY

COUPLINGS
De Laval Steam Turbine Co.
Frederick Iron and Steel Co.
Waldron Corp., John

CREPING MACHINES
Beloit Iron Works
Paper Converting Machine Co., Inc.
John Waldron Corp.

CYLINDER MACHINES
Moore & White Co.

CUTTERS
Dillon Machine Co.
Hamblet Machine Co.
Moore & White Co.

CYLINDER, RAILROAD AND DEVIL DUSTER
Moore & White Co., The

CYLINDER DRIVES
Moore & White Co., The

CYLINDER MOULDS
Beloit Iron Works
Improved Paper Machinery Corp.

CYLINDER WIRES
Appleton Wire Works
International Wire Works

DAMPENERS
Perkins & Sons, Inc., B. F.

DEFOAMERS
Campbell & Co., John

DECKERS
Improved Paper Machinery Corp.
Montague Machine Co.
Valley Iron Works

DENSITY REGULATOR
Merritt Engineering & Sales Corp., The

DEXTRINES
Arabol Manufacturing Co.

DIE CUTTERS
Appleton Machine Co., The

DIGESTER FITTINGS
Michigan Steel Casting Co.

DISPENSERS
Griffith-Hope Co.

DRIVE STANDS
Moore & White Co.

DRIVES (Paper Machinery)
Beloit Iron Works
Enterprise Machine Co.
Farrel-Birmingham Co.
Link Belt Co.

DRYERS
Beloit Iron Works

DRUM WINDERS
Beloit Iron Works

DRYER FELTS
Asten-Hill Mfg. Co.

DRYING SYSTEMS
Pickles, W. F.
Ross Engineering Co., J. O.
Stickle Steam Specialties Co.
Waldron Corporation, The

DUSTING MACHINERY
Jones & Sons Co., E. D.

DYES, (ANILINE)
Campbell & Co., John
E. I. Du Pont de Nemours & Co.
General Dyestuff Corp.
Heller & Merz
Geigy Co., The
National Aniline & Chemical Co.
New York Color & Chemical Co., Inc.

ELECTRIC EQUIPMENT
General Electric Co.

EMBOSSING CALENDERS
Perkins & Sons, Inc., B. F.
Textile Finishing Machinery

EMBOSSING MACHINES
Hudson Sharp Machine Co.
Paper Converting Machine Co.
John Waldron Corp.

EMBOSSING ROLLS
Hudson Sharp Machine Co.
Textile Finishing Mchy. Co.
Waldron Corp., John

EXTRACTORS
Valley Iron Works Co.

FANS
E. D. Jones & Sons Co.
Ross Engineering Corp., J. O.

FAN PUMPS
Beloit Iron Works
Lawrence Mach. and Pump Co.
Moore & White Co.
Valley Iron Works Co.
Smith & Winchester Mfg. Co.

FANS (Ventilating)
Perkins & Son, Inc., B. F.
Ross Engineering Corp., J. O.

FELTS AND JACKETS
Appleton Woolen Mills
Asten-Hill Mfg. Co.
Bulkley, Dunton & Co.
Draper Bros. Co.
Fitchburg Duck Mills
Huyck & Son, F. C.
Knox Woolen Co.
Lockport Felt Co.
Orr Felt & Blanket Co.
Philadelphia Felt Co.
Shuler & Benninghofen
Turner, Halsey Co.
Waterbury Felt Co.

FELT CARRIER ROLLS
Beloit Iron Works
Hunt Machine Co., Rodney

FELT CLEANERS
Magnus Chemical Co.
Philadelphia Quartz Co.

FELT GUIDES
Moore & White Co.

FELT SOAPS
Magnus Chemical Co.

FELT TIGHTENER (Automatic)
John Waldron Corp.

FILTERS
Glens Falls Machine Works
Improved Paper Machinery Corp.
Inversand Company
Moore & White Co.
Norwood Engrg. Co.
J. O. Ross Engrg. Corp.

FILTER CLEANERS
Magnus Chemical Co.

FILTER WIRES
Improved Paper Machinery Corp.
Appleton Wire Works

FILTERING SYSTEMS
Hungerford & Terry, Inc., The
Improved Paper Machinery Corp.

FIXTURES (Towel, Toilet, Napkin)
Griffith Hope Co.

FLAT SCREENS
Beloit Iron Works
Downingtown Mfg. Co.
Glen Falls Machine Co.
Improved Paper Machinery Corp.

FLEXIBLE COUPLINGS
De Laval Steam Turbine Co.
Emerson Manufacturing Co.
Frederick Iron and Steel Co.
John Waldron Corp.
Link Belt Co.

FLEXIBLE STEEL LACING
Flexible Steel Lacing Co.

FLEXIBLE SLICE
E. D. Jones & Sons Co.

FLOOR TILE (Non-Slip)
Carborundum Co.
Norton Co.

FLOW METER
General Electric Co.

FLY BARS
Bolton & Sons, Inc., John W.
Dilts Machine Works, Inc.
Jones & Sons Co., E. D.

FOLDING MACHINES
Dillon Machine Co.
Hamblet Machine Co.
Hudson Sharp Machine Co.
Paper Converting Machine Co., Inc.
Waldron, John, Corp.

FOURDRINIER
Moore & White Co.

FOURDRINIER WIRES
Appleton Wire Works
International Wire Works

FRICTION CALENDERS
Perkins & Son, Inc., B. F.
Textile Finishing Mchy. Co.

FRICTION CLUTCHES
Beloit Iron Works
Hunt Machine Co., Rodney
Link Belt Co.
Moore & White Co.

GEARS
Farrel-Birmingham Co.
De Laval Steam Turbine Co.
E. D. Jones & Sons Co.
John Waldron Corp.

GEARS (Fibre)
Gatke Corporation

GEARS (Machine Cut)
Farrel-Birmingham Co.
De Laval Steam Turbine Co.

GEARS AND PINIONS
Farrel-Birmingham Co.
Link Belt Co.
Moore & White Co.

GENERATORS
De Laval Steam Turbine Co.
General Electric Co.

GLUES
Arabol Manufacturing Co.

GRANITE ROLLS
Beloit Iron Works
Perkins & Son, Inc., B. F.

GRATING (Sidewalk)
Hendrick Mfg. Co.

GREY IRON CASTINGS
Farrel-Birmingham Co.

GRINDER VALVES
Glens Falls Machine Works

GRINDERS
Montague Machine Co.

GRINDING WHEELS
Carborundum Co.
Norton Co.

GUIDES (Automatic Web)
John Waldron Corp.

GUIDES (FELT)
Moore & White Co.

GUMMED TAPE TESTERS
Thwing Instrument Co.

GUMMING AND GLUING MACHINERY
Potdevin Machine Co.
Waldron Corporation, John

GUMMED SEALING TAPE
Paper Manufacturers Co.

HAND CLEANER
Magnus Chemical Co.

HAND CLEANER DISPENSERS
Magnus Chemical Co.

HEATERS (Unit)
J. O. Ross Engrg. Corp.

HEATING AND VENTILATING SYSTEMS
Ross Engineering Corp., J. O.

HIGH DENSITY THICKENERS
Improved Paper Machinery Corp.
Moore & White Co.

HOISTS (ELECTRIC)
General Electric Co.

HYDRAULIC MACHINERY
Farrel-Birmingham Co.

HYDRAULIC TURBINES
De Laval Steam Turbine Co.

INDICATORS
The Bristol Co.

INSTRUMENTS
The Bristol Co.

INTERFOLDING MACHINES
Hudson Sharp Machine Co.
Paper Converting Machine Co., Inc.

JORDAN ENGINES
Emerson Manufacturing Co.
Jones & Sons Co., E. D.
Smith & Winchester Mfg. Co.
Valley Iron Works

JORDAN FILLINGS
Bolton & Sons, Inc., John W.
Bahr Bros. Mfg. Co., The
Jones & Sons Co., E. D.
Smith & Winchester Mfg. Co.
Valley Iron Works

KNIVES, ETC.
Bolton & Sons, Inc., John W.
Dilts Machine Works, Inc.
Hamblet Machine Co.
Taylor Stiles & Co.

KNOT BORING MACHINES
DeZurik Shower Co.

KNOTTER & COARSE SCREENS
Fibre Making Processes, Inc.

KNOT SAWING MACHINES
DeZurik Shower Co.

LABELLING MACHINES
Potdevin Machine Co.

LABORATORY EQUIPMENT
Emerson Manufacturing Co.
E. D. Jones & Sons Co.
Thwing Instrument Co.
Valley Iron Works

LATEX CEMENTS
Arabol Manufacturing Co.

LATEX, RUBBER
Heveatex Corporation.

LATHES
Hydraulic, Stone, Sharpening
Montague Machine Co.

LAY BOYS
Hamblet Machine Co.
Moore & White Co.

LIQUID CHLORINE
Electro Bleaching Gas Co.
Mathieson Alkali Works, Inc.
Pennsylvania Salt Mfg. Co.

LOFT DRYERS
Ross Engineering Corp., J. O.
John Waldron Corp.

LUBRICANTS
Socony-Vacuum Corporation

MAGNIFIERS (Pocket)
Bausch & Lomb Optical Co.

METERING & PROPORTIONING SYSTEMS
Trimbey Machine Works

MICRO-PROJECTORS
Bausch & Lomb Optical Co.

MONOCULAR MICROSCOPES
Bausch & Lomb Optical Co.

MOTORS
General Electric Co.

MOULDS
Montague Machine Co.

NAPKIN FOLDING MACHINE
Hudson Sharp Machine Co.
Paper Converting Machine Co., Inc.
Waldron, John, Corp.

NAPKIN DISPENSERS
Griffith-Hope Co.

OPACIFYING PIGMENT
New Jersey Zinc Co.

PACKING
Greene, Tweed & Co.

PACKING (Rubber)
B. F. Goodrich Rubber Co.
U. S. Rubber Co.

PADDING GLUES
Arabol Manufacturing Co.

PAINT (ACID RESISTING)
Sleight Bituminous Products Co.

PAPER BAG MACHINERY
Heinrich, Inc., H. H.
Potdevin Machine Co.
Smith & Winchester Mfg. Co.

PAPER BREAK RECORDERS
Thwing Instrument Co.

PAPER CUTTERS
Dillon Machine Co.
Hamlet Machine Company
Moore & White Co.
Smith & Winchester Mfg. Co.

PAPER CALENDER ROLLS
Perkins & Son, Inc., B. F.

PAPER CORES
Climax Tube Co.

PAPER DAMPENERS
Perkins & Son, Inc., B. F.

PAPER GUILLOTINE
Heinrich, Inc., H. H.

PAPER DUSTERS
E. D. Jones & Sons Co.
Moore & White Co.

PAPER MANUFACTURERS
Kalamazoo Vegetable Parchment Co.
West Virginia Pulp & Paper Co.

PAPER MACHINE HOODS
Ross Engineering Corp., J. O.

PAPER MACHINE SLICES
Montague Machine Co.

PAPER MILL SUPPLIES
Castle & Overton, Inc.

PAPER AND BOARD CUTTERS
Beloit Iron Works

PAPER AND PULP MACHINERY
Beloit Iron Works
Emerson Manufacturing Co.
Farrel-Birmingham Co.
Improved Paper Machinery Corp.
E. D. Jones & Sons Co.
Lobdell Car Wheel Co.
Moore & White Co.
Paper & Textile Machinery Co.
Perkins & Son, Inc., B. F.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.

PAPER ROLLS
Textile Finishing Machy Co.
Waldron Corp., John

WHERE TO BUY

PAPER SCALES
Thwing Instrument Co.

PAPER STOCK DEALERS
Castle & Overton, Inc.

PAPER STOCK WASHERS
Jones & Sons Co., E. D.

PAPER SCREENS
E. D. Jones & Sons Co.

PAPER TESTERS
Perkins & Son, Inc., B. F.
Thwing Instrument Co.
Valley Iron Works Co.

PAPER TUBES
Climax Tube Co.

PAPER TUBE MACHINERY
Dietz Machine Works
Samuel M. Langston Co.

PAPER WAXING MACHINERY
Improved Paper Machinery Corp.
Waldron Corporation, John

PASTES
Arabol Manufacturing Co.

PASTING MACHINES
Potdevin Machine Co.

PENESCOPE PENETRATION TESTER
Thwing Instrument Co.

PERFORATING MACHINES
Dietz Machine Works
Waldron, John, Corp.

PERFORATED METAL
Harrington & King Perforating Co.
Hendrick Mfg. Co.

PIPE (Stainless)
Mundt & Sons, Charles
National Tube Co.

PLATING, CHROMIUM
Chromium Corp. of America

PLATERS
Perkins & Son, Inc., B. F.

PLAYING CARD MACHINERY
Waldron, John, Corp.

POWER TRANSMISSION EQUIPMENT
De Laval Steam Turbine Co.
Farrel-Birmingham Co.
Link Belt Co.

PRECISION INSTRUMENTS
Thwing Instrument Co.

PRESSES (Napkin)
Paper Converting Machine Co.
Waldron Corp., John

PRESS ROLLS
American Wringer Co., Inc.
Beloit Iron Works
Emerson Manufacturing Co.
Goodrich Rubber Co.
Hunt Machine Co., Rodney
Improved Paper Machinery Corp.
Montague Machine Co.
Stowe-Woodward, Inc.
Valley Iron Works Co.

PRESS ROLLS (Granite)
Beloit Iron Works
Perkins & Sons, Inc., B. F.

PRESSURE BULKER
B. F. Perkins & Son, Inc.

PRINTING MACHINES
Heinrich, Inc., H. H.
Potdevin Machine Co.
Waldron, John, Corp.

PRINTING PRESSES
Hudson Sharp Machine Co.
Potdevin Machine Co.
Paper Converting Machine Co., Inc.

PULLEYS
Link Belt Co.
Montague Machine Co.

PULPERS
E. D. Jones & Sons Co.

PULPSTONES
Carborundum Co.
Norton Co.

PULP GRINDERS
Glens Falls Machine Works

PULP PRESSES
Farrel-Birmingham Co.

PULP SCREENS
E. D. Jones & Sons Co.
Improved Paper Machinery Corp.
Trimbey Machine Works

PULPS (SULPHITE)
Andersen Co., J.
Castle, Overton, Inc.
Edw. B. Murray.
Perkins-Goodwin Co.
Price & Pierce, Ltd.

PULP THICKENERS
Improved Paper Machinery Corp.
Moore & White Co.

PUMP PRIMERS (Steam and Water Jet)
Lawrence Mach. and Pump Co.
Valley Iron Works Co.

PULP WOOD MACHINERY
Montague Machine Co.

PUMPS (Acid)
Connersville Blower Co.
De Laval Steam Turbine Co.
Frederick Iron and Steel Co.
Lawrence Pump & Engine Co.
Morris Machine Works
Roots - Connersville - Wilbraham

PUMPS (Acid Centrifugal)
De Laval Steam Turbine Co.
Frederick Iron and Steel Co.
Lawrence Mach. & Pump Co.
Lawrence Pump & Engine Co.
Moore & White Co.
Morris Machine Works
Valley Iron Works

PUMPS (Centrifugal)
Chain Belt Co.
Connersville Blower Co.
Frederick Iron and Steel Co.
Lawrence Pump & Engine Co.
Moore & White Co.
Morris Machine Works
Roots - Connersville - Wilbraham

PUMPS (Measuring)
Lawrence Pump & Engine Co.

PUMPS (Reciprocating)
Lawrence Pump & Engine Co.
Morris Machine Works

PUMPS (Rotary Cycloidal)
Connersville Blower Co.
Improved Paper Machinery Corp.
Lawrence Mach. and Pump Co.
Lawrence Pump & Engine Co.
Morris Machine Works
Roots - Connersville - Wilbraham

PUMPS (Stuff)
Beloit Iron Works
De Laval Steam Turbine Co.
Dillon Machine Co.
Downingtown Mfg. Co.
Enterprise Machine Co.
Frederick Iron and Steel Co.
Improved Paper Machinery Corp.
Lawrence Mach. & Pump Co.
Lawrence Pump & Engine Co.
Moore & White Co.
Morris Machine Works
Smith & Winchester Mfg. Co.
Valley Iron Works Co.

PUMPS (Stock)
Dillon Machine Co.
Enterprise Machine Co.
Frederick Iron and Steel Co.
Lawrence Pump & Engine Co.
Morris Machine Works

PUMPS (Suction)
Lawrence Pump & Engine Co.
Moore & White Co.
Morris Machine Works

PUMPS (Vacuum)
Connersville Blower Co.
Improved Paper Machinery Corp.
Lawrence Mach. & Pump Co.
Lawrence Pump & Engine Co.
Morris Machine Works
Roots - Connersville - Wilbraham

PYROMETERS (Roll)
Thwing Instrument Co.

RAG CUTTERS
Perkins & Son, Inc., B. F.
Taylor Stiles & Co.

REAM COUNTERS
Hamblet Machine Co.

RECORDING INSTRUMENTS
The Bristol Co.
Thwing Instrument Co.

RECORDING TACHOMETERS
General Electric Co.

RECOVERY SYSTEMS (Waste Heat)
J. O. Ross Engrg. Corp.

RECOVERY SYSTEMS (Soda & Sulphite)
Ross Engineering Corp., J. O.

REDUCTION GEARS
Farrel-Birmingham Co.
Link Belt Co.

REELS (Upright & Revolving)
Beloit Iron Works
De Laval Steam Turbine Co.
Emerson Manufacturing Co.
Moore & White Co.

REFINERS (Centrifugal)
Bahr Bros.

REFINING ENGINES
Emerson Manufacturing Co.
Jones & Son Co., E. D.

REFRACTORIES
Carborundum Co.
Norton Co.

REGULATORS
The Bristol Co.
Merritt Engrg. & Sales Co. Inc.
Trimbey Machine Works

REGULATORS (Consistency)
Trimbey Machine Works

REGULATORS (Density)
Trimbey Machine Works

REWINDERS
Beloit Iron Works
Cameron Machine Co.
Samuel M. Langston Co.
Moore & White Co.
Smith & Winchester Mfg. Co.
John Waldron Corp.

ROD MILL
Mine & Smelter Supply Co.

ROLL GRINDERS
Farrel-Birmingham Co.
Lobdell Car Wheel Co.

ROLL SLITTING MACHINES
Cameron Machine Co.
Samuel M. Langston Co.

ROLL STANDS
Cameron Machine Co.
Moore & White Co.

ROLL WINDING MACHINES
Cameron Machine Co.

ROLLS (Chilled Iron & Gray Iron)
Farrel-Birmingham Co.
Lobdell Car Wheel Co.
Smith & Winchester Mfg. Co.
Valley Iron Works

ROLLS (Embossing)
Perkins & Son, Inc., B. F.
Textile Finishing Machy. Co.
John Waldron Corp.

ROLLS (Calender)
Farrel-Birmingham Co.
Lobdell Car Wheel Co.
Perkins & Son, Inc., B. F.
Smith & Winchester Mfg. Co.
Textile Finishing Machinery Co.
John Waldron Corp.

ROLLS (Granite, Couch, Felt)
Montague Machine Co.

ROLLS (Paper)
Goodrich Rubber Co.
Montague Machine Co.
Textile Finishing Machy. Co.
John Waldron Corp.

ROLLS (Rubber or Rubber Covered)
American Wringer Co.
Montague Machine Co.

ROSIN SIZE
American Cyanamid & Chemical Corp.
Bennett, Inc.
Paper Makers Chemical Co.

ROTARY PULP SCREENS
Improved Paper Machinery Corp.
E. D. Jones & Sons Co.

ROTARY SCREENS
Moore & White Co.
Valley Iron Works

RUBBER COVERED ROLLS
American Wringer Co.
B. F. Goodrich Rubber Co.
Hunt Machine Co., Rodney
Stowe-Woodward, Inc.

RUBBER HOSE
B. F. Goodrich Rubber Co.

RUBBER PRESS ROLLS
U. S. Rubber Co.

SALT
Pennsylvania Salt Co.

SAND & POLISHING MACHINES
Carborundum Co.
Waldron, John, Corp.

SATURATING MACHINES
Moore & White Co.
Potdevin Machine Co.
Waldron, John, Corp.

SAVEALLS
De Laval Steam Turbine Co.
Improved Paper Machinery Corp.
Moore & White Co.

SCORE TESTERS
Thwing Instrument Co.

SCREEN PLATE
Hendrick Mfg. Co.
Improved Paper Machinery Corp.
Union Screen Plate Co.

SCREENS
Beloit Iron Works
Improved Paper Machinery Corp.
E. D. Jones & Sons Co.
Link Belt Co.
Montague Machine Co.
Moore & White Co.
Valley Iron Works

SEALING TAPE (Gummed)
Paper Manufacturers, Inc.

SHAFTS (Expansion)
Enterprise Machine Co.

SHEAVES
Montague Machine Co.

SHOP MICROSCOPES
Bausch & Lomb Optical Co.

SHOWER PIPES
DeZurick Shower Co.
Improved Paper Machinery Corp.
E. D. Jones & Sons Co.
Montague Machine Co.
Moore & White Co.
Smith & Winchester Mfg. Co.

SHOWER PIPES (Foam Laying)
DeZurick Shower Co.
Emerson Manufacturing Co.

SHOWER PIPES (White Water)
DeZurick Shower Co.
Emerson Manufacturing Co.

SHREDDERS (Pulp and Paper)
E. D. Jones & Sons Co.
Taylor Stiles & Co.

SILICATE OF SODA
American Cyanamid & Chemical Corp.
Philadelphia Quartz Co.

SIZING PROCESS
Bennett, Inc.
Ross Engrg. Corp., J. O.

SLIME REMOVER
Magnus Chemical Co.

SLITTERS AND REWINDERS
Beloit Iron Works
Cameron Machine Co.
Dietz Machine Works
Hamblet Machine Co.
Langston Co., Samuel M.
Moore & White Co.
Smith & Winchester Mfg. Co.
Waldron Corporation, John

SOAP POWDER
Magnus Chemical Co.
Paper Makers Chemical Corp.

SODA ASH
American Cyanamid & Chemical Corp.
Diamond Alkali Company
Mathieson Alkali Works, Inc.
Paper Makers Chemical Corp
Pennsylvania Salt Mfg. Co.
Solvay Process Co.

SOLVENT SIZING
Beloit Iron Works

SORTING TABLES
Moore & White Co.

SPECIAL MACHINERY
Enterprise Machine Co.
Farrel-Birmingham Co.
Hamblet Machine Co.
Hudson Sharp Machine Co.
Montague Machine Co.
Paper Converting Machine Co., Inc.
John Waldron Corp.

SPEED CHANGES (Variable)
Hunt Machine Co., Rodney
Moore & White Co.

SPEED REDUCERS
Beloit Iron Works
De Laval Steam Turbine Co.
Farrel-Birmingham Co.
Hunt Machine Co., Rodney

SPEED REDUCERS (Herring Bone)
De Laval Steam Turbine Co.
Farrel-Birmingham Co.
Link Belt Co.

SPEED REDUCING GEARS (Double Helical)
De Laval Steam Turbine Co.
Farrel-Birmingham Co.

SPIRAL BEVEL GEARS DRIVE STANDS
Beloit Iron Works
Moore & White Co.

STAIR TREADS
Carborundum Co.
Norton Company

STAIR and FLOOR TILES—(Non-Slip)
Carborundum Co.
Norton Company.

STARCH
American Cyanamid & Chemical Corp.
Corn Products Refining Co.

STEEL BELT LACING
Flexible Steel Lacing Co.

STEEL (Electric Furnace)
Timken Roller Bearing Co.

STEEL (Open Hearth)
Timken Roller Bearing Co.

STEEL (Stainless)
American Sheet & Tin Plate Co.
Jones & Sons Co., E. D.

STEEL PLATE CONSTRUCTION
Hendrick Mfg. Co.
Link Belt Co.
Ross Engrg. Corp., J. O.

STOCK CUTTERS
Perkins & Sons, Inc., B. F.

STOCK REGULATORS
DeZurick Shower Co.
Merritt Engineering & Sales Corp., The
Trimbey Machine Co.

STOKERS
Frederick Iron and Steel Co.

STUFF CHESTS
Jones & Sons Co., E. D.
Kalamazoo Tank & Silo Co.
Lawrence Mach. and Pump Co.
Moore & White Co.
Valley Iron Works Co.

STRAW MAKING MACHINERY
Samuel H. Langston Co.

STUFF PUMPS
Beloit Iron Works
Dillon Machine Co.
Frederick Iron and Steel Co.
Morris Machine Works
Smith & Winchester Mfg. Co.
Valley Iron Works Co.

SUCTION BOX COVERS
Emerson Manufacturing Co.
Moore & White Co.

SUCTION ROLLS
Beloit Iron Works

SULPHITE (Bleached and Unbleached)
Andersen & Co., J.
Castle & Overton, Inc.
M. Gottesman & Co., Inc.
Edw. B. Murray.
Pagel, Horton Co.
Perkins-Goodwin Co.
Price & Pierce Ltd
Stora Kopparberg Corp.

SULPHUR
American Cyanamid & Chemical Corp.
Texas Gulf Sulphur Co.

SUPERCALENDER
Perkins & Son, Inc., B. F.
Textile Finishing Machy. Co.

TABLE ROLLS
American Wringer Co.
Beloit Iron Works
Hunt Machine Co., Rodney

TACHOMETERS
The Bristol Co.

TANKS (Water, Oil, Etc.)
Hendrick Mfg. Co.
Kalamazoo Tank & Silo Co.

TANKS (Tile)
Kalamazoo Tank & Silo Co.

TEAR TESTERS
Thwing Instrument Co.

TEMPERATURE RECORDERS
General Electric Co.
Thwing Instrument Co.

TENSILE TESTERS
Perkins & Sons, Inc., B. F.

TESTERS (Bursting Strength)
Perkins & Son, Inc., B. F.

TESTING LABORATORY
E. I. DuPont De Nemours & Co., Inc.

THERMOMETERS
The Bristol Co.

TOILET FOLDING MACHINES
Hudson Sharp Machine Co.
Paper Converting Machine Co., Inc.

TOILET WINDERS
Cameron Machine Co.
Dietz Machine Works

TOWEL CABINETS
Griffith-Hope Co.

TOWEL INTERFOLDING MACHINES
Dietz Machine Works

TOWEL FOLDING MACHINES
Paper Converting Machine Co., Inc.
Waldron Corp., John

TOWEL WINDERS
Cameron Machine Co.
Hudson Sharp Machine Co.
Waldron Corp., John

TRANSMISSION MACHINERY
Beloit Iron Works
De Laval Steam Turbine Co.
Farrel-Birmingham Co.
Hunt Machine Co., Rodney
Link Belt Co.
Timken Roller Bearing Co.

TREADS (Non-Slip)
Carborundum Co.
Norton Company

TRUCKS
Moore & White Co.

TUBES (Paper)
Climax Tube Co.
Elixman Paper Core Co.

TUBING (Seamless Steel)
National Tube Co.
Timken Roller Bearing Co.

TUBS (Wood)
De Laval Steam Turbine Co.
Hunt Machine Co., Rodney

TURBINES (Hydraulic)
Connersville Blower Co.
De Laval Steam Turbine Co.
Hunt Machine Co., Rodney
Roots - Connersville - Wilbraham

TURBINES (Water)
De Laval Steam Turbine Co.
Hunt Machine Co., Rodney

TURBO-GENERATORS
De Laval Steam Turbine Co.

VACUUM CONTROL
Appleton Machine Co.
Broughton Systems

VALVES
DeZurick Shower Co.
Enterprise Machine Co.
E. D. Jones & Sons Co.
Trimbey Machine Works

VALVES (Automatic Water Control)
Merritt Engineering & Sales Corp., The

VALVES (Gate)
Enterprise Machine Co.
Hunt Machine Co., Rodney

VALVES (Absorption System)
Ross Engineering Co., J. O.

VENTILATING SYSTEMS
J. O. Ross Engrg. Corp.

WASHERS
Emerson Manufacturing Co.
Improved Paper Machinery Corp.
E. D. Jones & Sons Co.
Moore & White Co.

WASHING ENGINES
Emerson Manufacturing Co.
E. D. Jones & Sons Co.

WATER FILTERS
Hungerford & Terry, Inc., The
Improved Paper Machinery Corp.

WATER SOFTENERS
Hungerford & Terry, Inc., The
Inversand Company

WAXING MACHINERY
Improved Paper Machinery Corp.
Potdevin Machine Co.
Waldron, John, Corp.

WAX SIZE
American Cyanamid & Chemical Corp.
Bennett, Inc.
Paper Makers Chemical Corp.

WET MACHINES
Emerson Manufacturing Co.
Improved Paper Machinery Corp.
Montague Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works

WHITE WATER SAMPLERS

WINDERS
Beloit Iron Works
Cameron Machine Co.
DeZurick Shower Co.
Langston Co., Sam L.
Moore & White Co.
Smith & Winchester Mfg. Co.

WINDERS
Waldron Corp., John

WIRE CLEANERS
Magnus Chemical Co.

WIRE GUIDE ROLLS
American Wringer Co.

WIRE GUIDES
Moore & White Co.
John Waldron Corp.

WIRE STRETCH ROLLS
American Wringer Co.
Valley Iron Works Co.

WOOD CLEANING MACHINERY
DeZurik Shower Co.

WOOD SPLITTERS
Moore & White Co.

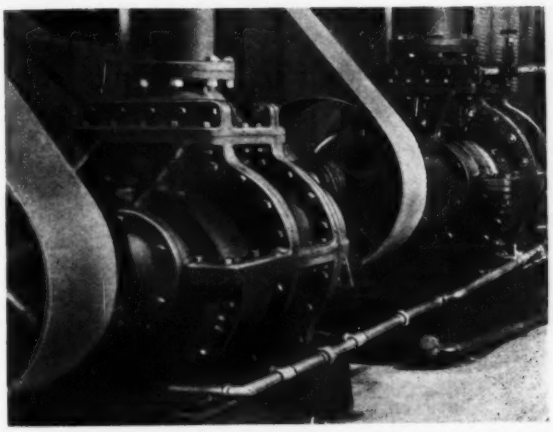
WORMED CUTTERS
American Wringer Co.

WRENCHES
Greene, Tweed & Co.

ZINC OXIDE PIGMENT
New Jersey Zinc Co.

ZINC SULPHIDE PIGMENT
New Jersey Zinc Co.

ECONOMY



CONNERSVILLE VACUUM PUMPS LOWER PRODUCTION COSTS

MODERN design enables these new-type pumps to meet the exacting demands of today's production requirements. Connersville Vacuum Pumps have been widely used since the first suction roll was introduced in 1908. Here is what one superintendent (name on request), who has had 11 of these pumps in service since 1922, has to say about them:

"If all the equipment in our mill had been as trouble-free as Connersville pumps, I would never have anything to complain about."

The new Connersville Vacuum Pump is a product of today's engineering knowledge, combined with the experience of many yesterdays. Included among the improvements are: roller bearings, readily accessible; gears and bearings fully protected from damage by water; improved system of lubrication; bottom discharge eliminates stuffing box attention and saves power; casing split horizontally permits ready inspection of pump interior.

Our sales offices will welcome an opportunity to discuss your pump requirements at any time.

Write for Bulletin 50-B10

ROOTS-CONNERSVILLE BLOWER CORP.
Mount and Michigan
CONNERSVILLE, INDIANA

NEW YORK CHICAGO POTTSTOWN, PA.
BOSTON PITTSBURGH DETROIT ST. LOUIS
SAN FRANCISCO LOS ANGELES

ALPHABETICAL INDEX TO ADVERTISERS

Amer. Cyanamid & Chem. Corp. —
American Engrg. Co. 66
Amer. Sheet & Tin Plate Co. —
American Wringer Co., Inc. 120
American Writing Paper Co. 100
Anderson & Co., J. —
Appleton Machine Co. 123
Appleton Wire Works, Inc. 129
Appleton Woolen Mills 129
Arabol Mfg. Co. —
Asten-Hill Mfg. Co. 69, 70

Bahr Bros. Mfg Co. —
Banker Paper Co., J. W. 126
Bausch & Lomb Optical Co. —
Beck Machine Co., Chas. 125
Beloit Iron Works 3
Bennett, Inc 64
Bolton & Sons, Inc., John W. 124
Bowsher & Co., N. P. —
Bristol Company —
Broughton Systems 123
L. L. Brown Paper Co. 40
Bulkley, Dunton & Co. Front Cover

Cameron Machine Co. 15
Campbell & Co., John —
Canadian Elixman Co. 72
Carborundum Co. —
Casein Manufacturing Co. of America 127
Castle & Overton, Inc. —
Chain Belt Co. —
Champion-International Co. 118
Chillicothe Paper Co. 94
Chromium Corp. of America 5
Climax Tube Co. —
Clinton Company —
Connersville Blower Co. —
Corn Products Refining Co. —
DeLaval Steam Turbine Co. 7
De Zurik Shower Co. —
Diamond Alkali Works —
Dietz Machine Works —
Dillon Machine Co. 127
Dilts Machine Works, Inc. 32
Downingtown Mfg. Co. 38
Draper Bros. Co. 120
DuPont de Nemours & Co. —

Eastwood-Nealley Corp. Back Cover
Edgar Bros. Co. 6
Electro Bleaching Gas Co. 35, 36
Elixman Paper Core Co. 72
Emerson Manufacturing Co. —
Enterprise Machine Co. —
Esleeck Mfg. Co. 98
Farrel-Birmingham Co., Inc. 90
Ferguson Co., Hardy S. 126
Fibre Making Processes, Inc. —
Fifth Avenue Bldg., The —
Fitchburg Duck Mills 122
Fitchburg Paper Co. 94
Flexible Steel Lacing Co. —
Frederick Iron & Steel Co. 14
Fulton Iron Works Co. 92

Gatke Corporation —
Geigy Company, Inc. —
General Chemical Co. —
General Dyestuffs Corp. 19
General Electric Co. 54
Gilman Paper Co. 127
Goodrich Rubber Co., The B. F. —
Goodyear Tire & Rubber Co. 78
Gottesman & Co., Inc. 20
Greene, Tweed & Co., Inc. —
Griffith-Hope Co. —

Hamblet Machine Co. 80
Hammermill Paper Co. —
Hardy, George F. 10 & 126
Harrington & King Perforating Co. 127
Heinrich, H. H., Inc. —
Heller & Merz Corp. 122
Hendrick Mfg. Co. 124
Heveatex Corp. —
Hofft Co., M. A. 6
Hospitals Trust, Ltd. —
Hubbs & Co., Chas. F. 102
Hudson Sharp Mch. Co. —
Hungerford & Terry, Inc. 127
Huyck & Sons, F. C. 8

Illinois Steel Co. —
Improved Paper Machy. Co. 46
International Paper Co. 2, 98, 121
International Pulp Co. —
International Wire Works 124

Jensen Co., G. D. —
Jones & Sons Co., E. D. 9

Kalamazoo Tank & Silo Co. 126
Kalamazoo Veg. Parch. Co. 4
Keller Co., E. J. 124
Knox Woolen Co. Front Cover

Lagerloef Trading Co. —
Langdon Mfg. Co. 129
Langston Co., Samuel M. 127
Lawrence Machine & Pump Co. —
Lawrence Pump & Engine Co. —
Lindsay Wire Weaving Co. 17
Link Belt Co. 96
Lobdell Car Wheel Co. 4
Lockport Felt Co. 104
Lockwood's Directory 76

Magnus Chemical Co. 125
Manhattan Rubber Co. 11
Mathieson Alkali Works 58
Mead Corp. 102
Menasha Products Co. 42
Merritt Engineering & Sa'es Co. 50
Michigan Steel Casting Co. 10
Miller, M. L. 126
Mine & Smelter Supply Co. 124
Montague Machine Co. 92
Moore & White Co. 88, 124
Morris Machine Works 121
Mundt & Sons, Charles 127
Murray, Edward B. 124
Murray Mfg. Co., D. J. 8

Nashua Gummed & Coated Paper Co. 100
National Aniline & Chemical Co. —
National Oil Products Co. —
National Tube Co. —
New Jersey Zinc Co. —
New York Color & Chemical Co. 12
Noble & Wood Machine Co. 44
Norton Co. —
Norwood Engineering Co. 126

Ohio Cultivator Co. —
Oliver United Filters, Inc. 135
Orr Felt & Blanket Co. 16

Pagel, Horton & Co., Inc. 52
Paper & Textile Machinery Co. —
Paper Converting Machine Co. —
Paper Makers Chemical Corp. 124
Paper Makers Importing Co. 126
Paper Manufacturers Co., Inc. 126
Pennsylvania Salt Mfg. Co. —
Perkins & Son, Inc., B. F. —
Perkins Goodwin Co. 60
Philadelphia Felt Co. —
Philadelphia Quartz Co. 96
Pickles, W. F. —
Port Huron Xylite Co. 125
Potdevin Machine Co. 122
Price and Pierce, Ltd. 125
Pulp & Paper Trading Co. —

Rhoads Sons, J. E. —
Roots-Connersville Blower Co. 133
Ross Engineering Corp., J. O. 82

Sandusky Fdy. & Mach. Co. 123
Seybold Machine Co. —
Shuler & Benninghofen —
S.K.F. Industries 106
Smith-Taber —
Smith & Winchester Mfg. Co. 84
Simonds-Worden-White Co. 104
Socony Vacuum Corp. —
Solvay Sales Corp. —
Stora Kopparberg Corp. 48
Stowe-Woodward, Inc. —

Tarentum Paper Mills 118
Taylor Instrument Co. —
Taylor, Stiles & Co. 12
Texas Gulf Sulphur Co. —
Textile Finishing Machinery Co. 14
Thwing Instrument Co. —
Ticonderoga Mch. Works 123
Timken Roller Bearing Company 13
Titanium Pigment Co., Inc. —
Trimbey Machine Works —
Turner, Halsey Co. —

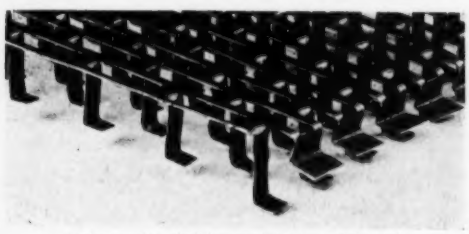
Union Screen Plate Co. —
United States Rubber Co. —

Valley Iron Works Co. —
Vanderbilt Co., R. T. —
Voith Co., Inc., J. M. 56

Waldron Corp., John 120
Walworth Company —
Waterbury Felt Co. 74
Westinghouse Elec. & Mfg. Co. 18
Weyerhaeuser Timber Co. 62
W. Virginia Pulp & Paper Co. 86, 122
Williams & Co., C. K. 127

See pages 130, 131, 132, and 133 for Classified List of Products and Their Manufacturers.

2 DEVICES
That Will Save Money for PAPER MILLS



Design varies slightly according to metal used

All-Metal Drainage Section

This device provides the following advantages:

being fungus-resisting slime
is practically eliminated
freer drainage
great strength
long life

You need not wait until you buy a new Decker, Save-All, or Bleach-Washer to get these advantages. Put this Drainage Section on your existing units.

Vacuum Sheet Discharger

Users of this device noted at once in the operation of their Decker, Save-All, or other filter on which it was installed the following advantages:

clean wires at all times
which increases capacity
longer life of wires because
nothing touches them
reduced fiber losses

And one company in particular, handling thin sheets, noted a distinct improvement in this operation. The Vacuum Discharger can be installed on existing filters.

Oliver United makes a complete line of modern Deckers, Save-Alls, Bleach-Washers, H. D. Thickeners, Washers, Board Machines. Also line of Acid and other pumps.

OLIVER UNITED FILTERS INC.

NEW YORK
33 West 42nd Street

CHICAGO
221 North La Salle St.

SAN FRANCISCO
351 California Street

TORONTO
330 Bay Street

Affiliated with The Dorr Co., Inc., Engineers

57 YEARS OF PROGRESSIVE GROWTH

EASTWOOD

WIRES ARE DAILY DEMONSTRATING THEIR QUALITY IN LOW COST OF OPERATION.

LOW TONNAGE COSTS ARE BASED ON AVERAGE WIRE LIFE.

IN THIS REGARD EASTWOOD WIRES ARE STANDING THE TEST.

FURNISHED IN BRASS AND BRONZE IN STRAIGHT AND CRAFT WEAVE.

WIRES

WIRE BODY.—Durable and mooth.

SEAM.—All Brazed and Sewed to Eliminate Mark.

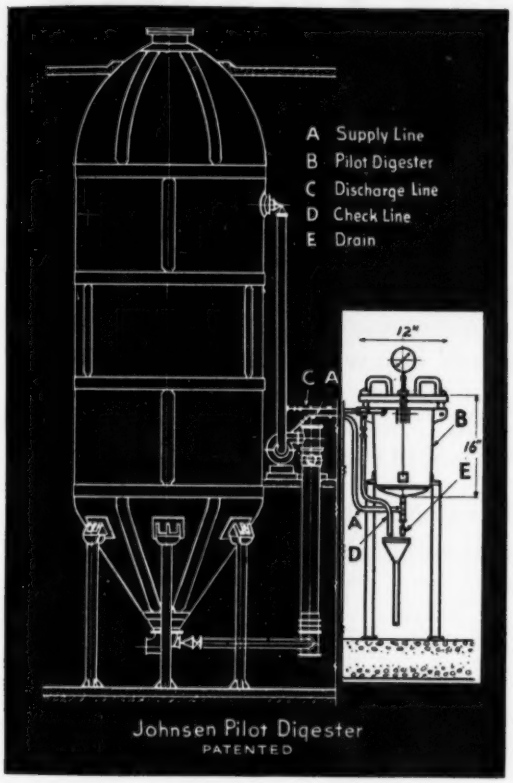
EDGE.—To Prevent Cracking.

ACID-RESISTING VALVES IN BRONZE AND SPECIAL ALLOYS

EASTWOOD-NEALLEY CORPORATION

BELLEVILLE, N. J., U. S. A.

The New Johnsen PILOT DIGESTER



Sketch of digester installation with Pilot Digester (shown in insert). Scale of large digester, 160 to 1. Scale of Pilot Digester, 27 to 1.

THE JOHNSEN Pilot Digester enables you to determine the yield and quality of pulp accurately. When changing over to a new supply or a different quality of pulp wood, the temperature curve can be determined in advance without experimenting in the regular digester.

The installation and operation of the pilot digester is simple. It is connected to the pressure and suction side of the circulating pump. If there is no circulating system, a line is attached to the regular digester and then to a relief line or other convenient connection through a throttling valve.

We will appreciate the opportunity of sending you full information on this new Pilot Digester.

Other Equipment

U-Bar Barking and Washing Drum—F.M.P. Knotter and Coarse Screen—F.M.P. Circulating System—Nekoosa Bark and Screening Press—Nekoosa Chip Cutter—Norman Chip Duster—Wright Chip Screen.

FIBRE MAKING PROCESSES, INC.

Willoughby Tower, Chicago, Illinois, U. S. A.

PAPER TRADE JOURNAL

ESTABLISHED 1872

SIXTY-SECOND YEAR

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

Published Every Thursday by the

LOCKWOOD TRADE JOURNAL CO., Inc.

GEO. S. MACDONALD, President. J. BANNINGA, Sec.-Treas.

Executive and Editorial Offices: 15 West 47th Street, New York
Chicago Office: 123 West Madison St.

TABLE OF CONTENTS

Bids Opened for Paper for U. S. Government 11
Head of Kimberly-Clark Is Optimistic 23
Stimulating Pulpwood Development 23
Snowstorm Slows Boston Paper Trading 24
Active Demand for Mixed Papers 24
Atlantic Gummed Paper Corp. Expands 24
Chicago Market Conditions Little Changed 25
Kraft Market Firm 25
Occupational Tax Reduction 25
Bill to Tax Wood Pulp 25
Philadelphia Demand Retarded by Weather 26
Canadian Paper Trade Association Meets 27
Editorial **28**
Paper Exports Drop in 1933 28
Paper Mill Employment 28
Ruling Checks Pulp Mill Merger 29
February Paper Shipments Show Increase 29
G. H. Mead on Chemical Authority 29
Union Bag Leases Proposed Pulp Mill 29
Foremen Improvement Course 29
St. Lawrence Replaces Damaged Equipment 29
Technical Section
Report on the Manufacture of Newsprint from Southern Pine Under Commercial Operating Conditions 31
University of Maine Men Meet 32
Economic Aspect of Stoker Applications 33
Soap Wrap Sub-Committee Report 36
Thermal Insulation With Aluminum Foil 37
Delaware Valley TAPPI Discusses Formation 40
New England TAPPI Discusses Color 41
New E. D. Jones Multi beater 42
Imports of Paper and Paper Stock 47
John W. Banker Paper Co. Formed 48
Paper Machinery Parts Stolen 48
Indianapolis Paper Demand Slower 49
New York Market Review **49**
Miscellaneous Markets **50**
Market Quotations **50**

THE PAPER TRADE JOURNAL is indexed in Industrial Arts Index

Want and For Sale Advertisements, 56-57

OPACITY - RAYOX

(Pure TITANIUM Dioxide)

REFRACTIVE INDEX—2.52

The whitest and most opaque of any white pigment that has as yet been discovered.

It is being used both as a filler and in coating.

Our laboratory will be glad to assist you in formulating methods of application to insure maximum opacity in your paper.

"McNAMEE" CLAY

Air washed, Pulverized, or Crude.

We manufacture all grades suitable for both filling and coating.

R. T. VANDERBILT CO.

230 Park Avenue
New York